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PAPER TRADE JOURNAL

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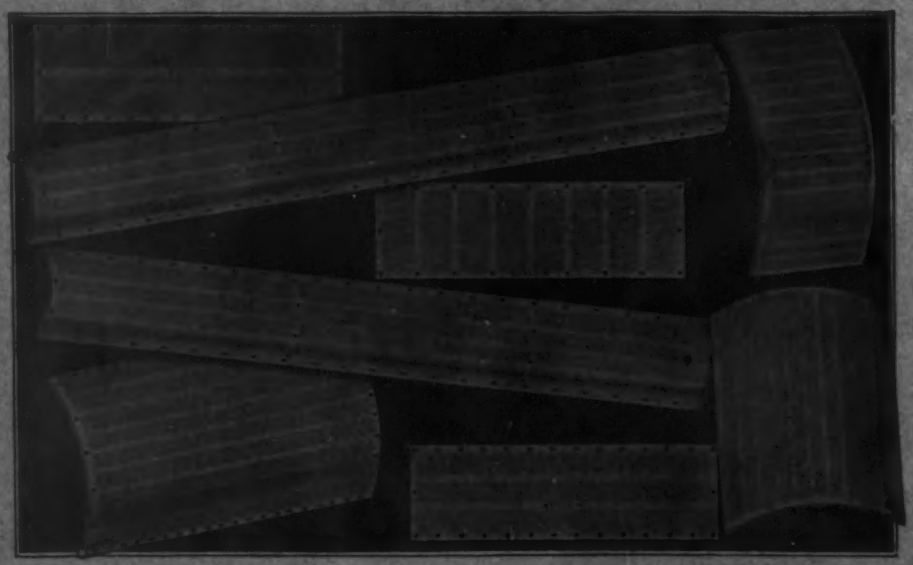

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PAPER TRADE JOURNAL
ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-FIFTH YEAR

Published Every Thursday by the

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PAPER TRADE JOURNAL

With Which Is Combined

Vol. LXXXIII, No. 13 [redacted] Thursday, September 23, 1926

The Magazine of the Paper Industry

Technical Association Meets at York, Pa.

Fall Convention of TAPPI Affords Great Enjoyment to Approximately 160 Guests—Subjects of Vital Importance to the Paper Industry Freely Discussed—Many Interesting and Educational Addresses Rendered—Modern Glatfelder Plant at Spring Grove and Other Up-to-Date Paper Mills Inspected—Those Who Attended

[FROM OUR SPECIAL REPRESENTATIVE]

YORK, Pa., September 16, 1926.—"The most enjoyable and instructive fall meeting we have ever held," said President George K. Spence, as the members of the TAPPI who were guests at a luncheon given by P. H. Glatfelter, were seated about the lawn of his magnificant estate, following an inspection of the plant of the P. H. Glatfelter Company at Spring Grove, Pa.

After the luncheon the guests left for Gettysburg for an inspection of the battlefield, which was the final event of a three day program. This program was of exceptional and educational interest as a business meeting; instructive, in that it provided an opportunity for the visiting of various industries in York; and entertaining throughout, because of the many thoroughly enjoyable features arranged by the local committee. This committee left nothing to be desired.

Too much credit cannot be given to the genial chairman, P. H. Glatfelter, and the whole-hearted support given him by his committee, which was composed of the following: W. E. Baker, York Haven Paper Company; Levi A. Bupp, Penn Fibreboard Corporation; J. C. Eisenhart, York Card and Paper Company; F. E. Finch, Hardinge Company; P. J. Gilbert, Gilbert Wall Paper Company; R. J. Hilliker, York Manufacturing Company; Horace Keesey, Schmidt and Ault Paper Company; W. S. McClellan, P. H. Glatfelter Company; W. A. Pitts, York Haven Paper Company; F. W. Preston, Keystone Roofing Manufacturing Company; James Rudisill, Sr., York Printing Company; H. D. Schmidt, Schmidt and Ault Paper Company; Beauchamp Smith, S. Morgan Smith Company; H. W. Stokes, York Haven Paper Company. All arrangements had been worked out to the minutest detail so that the program moved along smoothly and with the precision that made the visit a memorable one.

This is the first meeting of the TAPPI to be held in this section of the country, and it is only fitting that York should be selected, as the county of York ranks high in the industry. Manufacturing plants in this county represent an investment of approximately $15,000,000, and 2,400 men are employed in the industry.

The Opening Session

The opening session of the meeting was held at the Yorktowne Hotel on Tuesday morning. Reports of various committees were heard, following which there was a discussion on "Up to date methods of washing chemical pulp—sulphite, soda and sulphate." Other matters under discussion were "Recovery of waste liquors of chemical pulps and utilization of the products of distillation."

W. G. MacNaughton, secretary of the association, explained the methods used in many of the plants he had visited. There were also interesting talks on the subject by E. P. Cameron, Forest Products Laboratories, Montreal; W. E. Byron Baker, York Haven Paper Company, York Haven Pa., and Dr. Ralph H. McKee, prefessor of chemical engineering, Columbia University, New York. Two important papers were presented at this session, one on the "Yield and Quality of Pulp as Affected by Length of Chip," which was prepared by D. E. Cable, R. H. McKee and R. H. Simmonds. The other paper was by John D. Rue, Forest Products Laboratory, Madison, Wis., on "Sem-Chemical Process and Use of Rodmill."

Vacational Training Report

The report of Martin L. Griffin on vocational training aroused considerable interest and the subject was discussed to some length. M. L. Griffin abhorred the idea of taking trained men from other mills and recommended that each mill train their own men to keep the organization intact. W. G. MacNaughton was of the opinion that mills should employ two or three men from engineering schools each year and fit them for positions on their technical staff. George K. Spence went a step further and expressed the hope that a fund might be provided whereby a scout might keep in contact with young men in engineering schools and select the most likely prospects for work in paper mills.

Trip to York Haven

The guests left York at 12:45 in the afternoon on two special trolley cars for York Haven. These men in addition to about two score more, who traveled by autos, arrived at York Haven and were piloted to the auditorium of the York Haven Library, where a luncheon was served. Chief Burgess O. R. Emigh, officially welcomed the members of the association to town. After the dinner the visitors were piloted to the Lignone Department of the York Haven Paper Company, where the local plant has established units for reclaiming the waste liquors and utilizing them into a commercial commodity. This plant was the center of attraction for the technical experts at the York Haven Plant. After a visit through the paper mill, they continued through the plant of the Metropolitan Edison Company, from which place they embarked on scows for a trip up the river. The guests were seated on two large coal flats of that company, propelled by two large steam boats to a point near Stein's Landing, where they were met by a number of automobiles, a courtesy of the Metropolitan Edison Company, and proceeded to Middletown.

At Middletown they visited the Steam Generating Station of the Metropolitan Edison Company, one of the largest and most efficient pulverized fuel installations in the east.

The Yorktown Banquet

Addresses by James P. Whyte, professor of oral English, Bucknell University, and "Senator" Edward Ford were the features of the banquet held in the Yorktowne Hotel. Wright D. Pownall, president of the York Rotary Club, served in the capacity of toast-master, and delivered a short address before introducing the speakers. Professor Whyte's address was followed with a humorous monologue by "Senator" Ford. The banquet was presided over by President George A. Spence.

Waste and Stream Pollution Discussed

The Wednesday session was held at the York Country Club. There was an animated discussion on waste in the industry and stream pollution. This discussion was opened by George D. Bearce, News print Service Bureau, New York, who expressed an opinion, based on his investigations in the industry, that about 50 per cent of the waste is burnable and can be used as fuel.

W. G. MacNaughton said that from his observations considerable progress was being made in eliminating waste and preventing stream pollution. He compared the progress of the mill in this direction to the household by saying: "It was perfectly proper at one time to throw the dish water out of the front door. However, as the standard of living advanced it was not considered in good taste to throw it out of the front door and so it was thrown out of the back door. Then came the drains and sewers which emptied into the streams and rivers and now that the people use these streams and rivers for drinking, bathing and recreation purposes, the people are again confronted with the problem of sewer disposal. "And," Mr. MacNaughton concluded, "so it is with the mill today. Under State pressure backed by public sentiment each mill will solve its problems according to the necessary requirements."

In connection with this discussion a paper on the "Hardinge Clarifier" was presented by M. C. Fleming, of the Hardinge Company. Of considerable interest to many of the members was a paper prepared by Dr. L. A. Jones on the "Oblique Annular Microscopic Illumination for Paper Surfaces." This process was fully described and illustrated by the use of stereopticon slides.

Following a luncheon at the York Country Club, the members were conducted to any of the following plants they wished to visit: Schmidt and Ault Paper Company, York Manufacturing Company, S. Morgan Smith Company, York Card and Paper Company, York Printing Company, Hardinge Company, Keystone Roofing Manufacturing Company, Penn Fibreboard Corporation Those of the members desiring to avail themselves of the Golf Course and Tennis Courts were extended this privilege through the courtesy of the Club.

Ball Game an Amusing Feature

A surprise was in store for the members when they reassembled at the Country Club in the late afternoon. A procession of what at first appeared to be a delegation of the contestants in the recent Beauty Pageant at Atlantic City passed in review attired in the latest feminine fashions and with all the grace of our Fifth Avenue flappers. Incompatible however, with the otherwise successful deception was the fact that some of the "beauties" wore beards, while others were smoking pipes.

GROUP PICTURE TAKEN AT THE FALL CONVENTION OF THE TECHNICAL

This incongruous assortment of "feminity" divided itself into two teams and the "base ball" game was on. It was picturesuqe, it was hilarious, and it was good fun for the players and onlookers as well. Many runs were scored during the short duration of the game, which was called on account of darkness. It was a happy bunch of "boys" who sat down to dinner at the Country Club that evening, and all joined in heartily in making the smoker that followed a hugh success.

Thursday Session

At the Thursday morning business session held at the Yorktowne Hotel, a paper on "De-inking and Washing Reclaimed Paper Stock" was presented by J. J. O'Connor, Mead Pulp and Paper Company, Chillicothe, Ohio. This was supplemented by remarks on the same process by John Traquair of the same company. A lively discussion followed, dealing with the various processes of de-inking. There was also a discussion on the "Control of Beater Furnish for Book Paper." All business sessions were well attended. There were about 160 in attendance at the convention.

Those Who Attended the Fall Meeting

Among those who attended the Fall Meeting of the Technical Association were the following:

Armand J. Abrams, Bogalusa Paper Company, Bogalusa, La.; Allen Abrams, Marathon Paper Mills Company, Rothschild, Wis.; F. B. Allen, Allen Sherman Hoff Company, Philadelphia; W. H. Artz, Westinghouse Electric and Mfg. Company, East Pittsburgh, Pa.; and A. L. Allen, General Electirc Company, Pittsfield, Mass.

Albert Bachmann, American Writing Paper Company, Holyoke, Mass.; Mr. Baker, P. H. Glatfelter Company, Spring Grove, Pa.; W. E. Byron Baker, Continental Paper and Bag Mills Corporation, 100 East 42nd street, New York; R. R. Baker, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa.; H. F. Banan, Westinghouse Electric and Manufacturing Company, 10 High street, Boston; Geo. D. Bearce, News Print Service Bureau, New York; Harry Bennett, Valley Iron Works Company; 350 Madison Ave., New York; O. L. Berger, G. D. Jenssen Company, 200 Fifth Avenue, New York; M. R. Bhagwat, 305 Havermeyer Hall, Columbia University, New York; P. S. Bolton, Muirhead and Mansfield, 501 Fifth Ave., New York; L. M. Booth, Booth Chemical Company, Box 203, Elizabeth, N. J.; Ralph S. Bosworth, Crocker-McElwain Company, Holyoke, Mass.; J. A. Bowers, Hammermill Paper Company, Erie, Pa.; Forest W. Brainerd, Dill and Collins Company, Philadelphia; Levi A, Bupp, Penn Fibreboard Corporation, York, Pa.; and Harry C. Busser, York Haven Paper Company, York Haven,

Olin W. Callighan, Allied Paper Mills, Kalamazoo, Mich.; E. P. Cameron, Forest Products Laboratories, 700 University Street, Montreal, Que.; James A. Cameron, Cameron Machine Company, 61 Poplar street Brooklyn, N. Y.; C. E. Carpenter, Arthur D. Little, Inc., 30 Charles River Road, Cambridge, Mass.; E. V. Cavey, Westinghouse Electric and Manufacturing Company, Watertown, N. Y.; Roy C. Charron, United States Envelope Company, 84 Prescott St., Worcester, Mass.; John Cornell, Paper Mill, New York; D. E. Cousins, Tonawanda Paper Company, North Tonawanda, N. Y.; T. Linsey Crossley, Industrial Laboratories, Ltd., 23 Manning Arcade Annex, Toronto, Ontario; Noel Cun-

ASSOCIATION OF THE PULP AND PAPER INDUSTRY, YORK, PA. SEPTEMBER 14-16, 1926.

mingham, Hardinge Company, York, Pa.; and C. E. Curran, Forest products Laboratory, Madison, Wis.

Guy H. Davies, Mount Holly Paper Company, Mount Holly Springs, Pa.; Philip DeWolf, Joubert and Goslin Machine and Foundry Company, 82 Beaver street, New York; J. A. DeCew, Process Engineers, Inc., New York; J. C. Dieffenderfer, Paper Makers Chemical Company, Easton, Pa.; Jacob Edge, Downingtown Manufacturing Company, Downingtown, Pa.; J. C. Eisenhart, York Card and Paper Company, York, Pa.; Charles L. Ellis, Downingtown Manufacturing Company, Downingtown, Pa.; George C. Emigh, York Haven Paper Company; York Haven, Pa.; C. M. Eshelman, Cameron Machine Company, 61 Poplar street, Brooklyn, N. Y.; and R. C. Evans, York Card and Paper Company, York, Pa.

F. C. Farnsworth, Farnsworth Company, Harrisburg, Pa.; R. C. Ferguson, Hardinge Company, York, Pa.; F. E Finch, Hardinge Company, York, Pa.; M. C. Fleming, Hardinge Company, York, Pa.; S. W. Fletcher, J. O. Ross Engineering Corporation, 30 E. 42nd St., New York; William B. Ford, American Glue Company, Boston, Mass.; Geo. A. Forman, Schmidt and Ault Paper Company, York, Pa.; James Foxgrower, Western Paper Makers Chemical Company, Kalamazoo, Mich.; H. W. French, Hammermill Paper Company, Erie, Pa.; G. P. G. Genberg, Frazer Cos. Ltd., Edmundstun, Canada; W. B. Gery, The Dorr Company, 247 Park Avenue, New York; P. H. Glatfelter, P. H. Glatfelter Company, Spring Grove, Pa.; P. J. Gilbert, Gilbert Wall Paper Company, York, Pa.; V. H. Gottschalk, United States Bureau of Efficiency, Washington, D. C.; U. S. Grant, Westinghouse Electric and Manufacturing Company, Philadelphia; C. S. Gravatt, Western Union Telegraph Company, 191 Hudson street, New York; Martin L. Griffin, Taunton, Mass.

G. A. Hall, Albermarle Paper Manufacturing Company, Richmond, Va.; George K. Hammill, Glue Research Corporation, Bureau of Standards, Washington, D. C.; C. S. Hamm, Mead Fibre Company, Kingsport, Tenn.; J. R. Hartman, Union Gas and Electric Company, Cincinnati, Ohio; J. D. Haskell, Dilts Machine Works, Inc., Fulton, N. Y.; Hawkins, Mr., P. H. Glatfelter Company, Spring Grove, Pa.; R. J. Hilliker, York Manufacturing Company, York, Pa.; E. S. Hinman, P. H. Glatfelter Company, Spring Grove, Pa.; and Albert H. Hooker, Jr., Hooker Electrochemical Company, 25 Pine street, New York.

S. W. Jacobs, Electric Bleaching Gas Company, 9 E. 41st Street, New York; G. W. Jessop, S. Morgan Smith Company, York, Pa.; C. A. Jobson, New York and Pennslyvania Company, and Castanea Paper Company, Lock Haven, Pa.; C. N. Johnson, Westinghouse Electric & Manufacturing Company, Philadelphia, Pa., and Douglass R. Judd, Hardinge Company, York, Pa.

Paul Koeing, Continental Paper and Bag Mills Corporation, 100 E. 42nd street, New York; Thomas J. Keenan, The Paper Industry, 18 E. 41st street, New York; Horace Keesey, Jr., Schmidt and Ault Paper Company, York, Pa.; M. J. Kelly, P. H. Glatfelter Company, Spring Grove, Pa.; A. J. Kennedy, Sandy Hill Iron and Brass Works, Hudson Falls, N. Y.; David J. Kerr, Champion Fibre Company, Canton, N. C.; Helen U. Kiely, American Writing Paper Company, Holyoke, Mass.; D. B. Kimball, E. Bird & Son, Inc., Walpole, Mass.; Mr. Kline, York Haven Paper Company, York Haven, Pa.; M. A. Krimmel, Hammermill Paper Company, Erie, Pa., and D. Kuhe, Continental Paper and Bag Mills Corporation, Rumford, Me.

R. W. Leeper, Canadian General Electric Company, Toronto, Canada; John S. Little, Western Electric Company, Chicago; E. R. Low, Beaver Products Co., Inc., Buffalo, N. Y.; A. H. Lowry, United States Rubber Company, Philadelphia; H. Lundberg, G. D. Jenssen Company, 200 Fifth Ave., New York.

Mr. Mahaley, P. H. Gletfelter Company, Spring Grove, Pa.; W. G. MacNaughton, Secretary, TAPPI; New York; J. W. Magee, Westinghouse Electric and Manufacturing Company, 30th and Walnut streets, Philadelphia; Wm. S. McClellan, P. H. Glatfelter Company, Spring Grove, Pa.; D. J. McCormack, S. Morgan Smith Company, York, Pa.; C. H. McDuffee, Claremont Paper Company, Inc., Claremont, N. H.; Louise E. McGrath, Booth Chemical Company, Elizabeth, N. J.; Robert McJohnstone, Cameron Machine Company, Brooklyn, N. Y.; Ralph H. McKee, Columbia University, New York; G. F. Metz, Hardinge Company, Inc., York, Pa.; Mr. Miller, P. H. Glatfelter Company, Spring Grove, Pa.; Guyon Miller, Downing-Miller, York Haven Paper Company, York Haven, Pa.; B. H. Morrison, Hamlin & Morrison, 216 S. 2nd St., Phila.; F. J. Morrison, Hummel-Ross Fibre Corporation, Hopewell, Va., and Harry J. Myers, York Haven Paper Company, York Haven, Pa.

Fred Naegeli, R. T. Vanderbilt Company, New York; John P. Nagle, York Haven Paper Company, York Haven, Pa., and J. H. Noble, Oliver Continuous Filter Company, New York.

J. J. O'Connor, Mead Pulp and Paper Company, Chillicothe, Ohio.

L. J. Parant, St. Croix Paper Company, Woodland, Me.; Harold L. Peckham, Hammermill Paper Company, Erie, Pa.; W. A. Pitts, York Haven Paper Company, York Haven, Pa.; A. G. Pounsford, Provincial Paper Mills, Ltd., Port Arthur, Ont.; Max Poyck, The Heller and Merz Company, 505 Hudson street, New York, and F. W. Preston, Keystone Roofing Company, York, Pa.

Harry D. Quickel, Schmidt and Ault Paper Company, York, Pa.

Harold R. Rafton, Raffold Company, of America, Lawrence, Mass.; G. F. Reale, Hooker Electrochemical Company, 25 Pine St., New York; Charles H. Reese, Hammermill Paper Company, Erie, Pa.; Carl F. Richter, Vera Chemical Corporation, Stoneham, Mass.; H. W. Rogers, General Electriic Company, Schenectady, N. Y.; Henry A. Rothchild, Kiimberly-Clark Company, Neenah, Wis.; James Rudisill, Sr., York Printing Company, York, Pa.; James J. Rudisill, Jr., York Printing Company, 10 South Water street, York, Pa., and John D. Rue, Forest Products Laboratory, Madison, Wis.

Thomas H. Savery, Jr., Nash Engineering Company, 80 East Jackson Boulevard, Chicago; Wm. H. Savery, Harpers Ferry Paper Company, Harpers Ferry, West Virginia; H. D. Schmidt, Schmidt and Ault Paper Company, York, Pa.; B. W. Scribner, Bureau of Standards, Washington, D. C.; R. T. Scully, General Electric Company, New York; Harry R. Serf, Schmidt and Ault Paper Company, York, Pa.; Merle B. Shaw, Bureau of Standards, Department of Commerce, Washington, D. C.; S. H. Shipley, York Manufacturing Company, York, Pa.; Charles A. Shubert, Dill and Collins Company, Phila., Pa.; R. H. Simmons, Oxford Paper Company, 87-35th St., Brooklyn, N. Y.; F. E. Sisson, Racquette River Paper Company, Potsdam, N. Y.; R. Skagerberg, Drying Systems, Inc., 1800 Foster Ave., Chicago; Jose. H. Slater, Escanaba Paper Company, Escanaba, Mich.; Beauchamp Smith, S. Morgan Smith Company, York, Pa.; E. H. Smith, Paper Makers Importing Company, Easton, Pa.; Richmond W. Smith, Bird Machine Company, South Walpole, Mass.; J. J. Solberg, Beaver Wood Fibre Company, Ltd., Thorold, Ont.; Spurgeon Spangler, Schmidt and Ault Paper Company, York, Pa.; G. K. Spence, Castanea Paper Company and New York and Pennsylvania Company, Johnsburg, Pa.; S. W. Stauffer, J. E. Baker Company, York, Pa.; R. R. Stoltz, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa.; D. Manson Sutherland Jr., Trenton, N. J.; Wm. Sutherland, Penn Fibre Board Company, York, Pa., and P. D. Switzer, Bird Machine Company, South Walpole, Mass.

C. R. Tait, Hammermill Paper Company, Erie, Pa.; J. K Towers, Hardinge Company, Inc., York, Pa.; John Traquair, Mead Pulp and Paper Company, Chillicothe, Ohio, and E. F. Troop, P. H. Glatfelter Company, Spring Grove, Pa.

George W. Van Steenbergh, Lockwood Trade Journal Company, 10 E. 39th street, N. Y.

Wm. J. Weed, Electro Bleaching Company, New York; Mr.

(*Continued on page 29*)

Valley Paper Mills May Take Over Island Plant

Stockholders of New Corporation Favorably Impressed With Mills at Menasha, Wis., to be Sold at Auction to Highest Bidder, October 25—Southern Immigration Association of Chicago May Establish Mill in Wisconsin to Manufacture Paper From Corn

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., September 18, 1926.—About another month's time will elapse before the Island Paper Company's plant at Menasha, Wis., will be sold at auction. An order has been issued by Judge Fred Beglinger, of Oshkosh, Wis., setting the sale for Monday, October 25.

The original plan was to dispose of the plant on Monday, September 20. Developments of the last few weeks, however, have made it seem advisable to defer the sale. Officers of the Valley Paper Mills, a new corporation of Neenah, Wis., have been negotiating with the idea of taking over the plant instead of building a new mill proposed several years ago. Stockholders of the company have inspected the plant and seemed favorably impressed with it.

Under the ruling of the court, the property will be sold at auction to the highest bidder. The sale will include the paper and sulphite mills, all paper machines, tools, machinery, water power rights and leases connected with the mills, as well as the real estate on which the mills are located.

Big Order for Swedish Pulp

Swedish interests have been given an order for 100,000 tons of paper pulp by the Dells Paper and Pulp Company, of Eau Claire, Wis. The pulp will be loaded on ships at Sweden and brought to docks at Milwaukee, Wis., via the Great Lakes. Here it will be transferred to railroad cars for delivery to the mill. Pulp has been shipped this way for the first time this year as far as a Wisconsin lake port. It is said that with the shipping price 15 cents a hundred-weight from Sweden this commodity is delivered real cheap to America, and the result is a killing off of the local waste paper market.

May Make Paper by New Process

Speculation is rife among paper manufacturers of the Fox River Valley as to the intention of the Southern Immigration and Industrial Association of Chicago, to establish a mill in this locality to make paper from corn. Letters have been received by commercial associations in several cities saying an industry of this nature was to be started somewhere in Wisconsin.

It is the association's intention to manufacture paper under a newly patented process called "Adam-Markoczi." A site is needed where the organization can purchase 40,000 acres of land outright in a section adapted to corn raising. The industry will be established to demonstrate the practical value of the patent which the association holds, according to the letters received here. The process will be superintended by Stephen J. Adam, high commissioner, Dr. Al Vajdaffy, professor of the Royal Hungarian University, and three civil engineers.

About 800 families will colonize around the new factory, largely to conduct the agricultural work, the outline of the industry says. These farmer-settlers will grow the raw products which it is planned to work up in the factory. The laborers will work 100 days in the proposed mill during the winter when agricultural work is at a minimum.

Products proposed for manufacture are 20,000 tons of lignine annually, writing and all kinds of commercial paper, 18,000 tons of mixed winter feed, 10,000 tons of corn gluten feed, and 5,000 tons of hog meal.

One of the reasons Wisconsin may not get an industry of this kind is said to be the fact that it would be impossible to purchase 40,000 acres of land in the particular area where corn would grow satisfactorily. This is in the southern part of the state, and a purchase there would necessitate taking over farms of 40, 60, 80 or 120 acres. Most of them are dairy farms at high prices and too much capital would be required to acquire so many improved and prosperous farms. The mill could go to the cutover section in Northern Wisconsin, but the climate is not considered suitable there.

Cellucotton Concern Now Kotex Co.

The power back of a trade-mark which is nationally advertised is shown in the decision of the Cellucotton Products Company of Neenah, Wis., to change its corporate name to the Kotex Company. This concern is a subsidiary of the Kimberly-Clark Company.

Cellucotton is practically an unknown name except in paper trade circles, but Kotex, the trade-mark of the sanitary product which is the chief output of the Cellucotton mills, has become a by-word with the public as a result of several years of nationwide advertising promotion. At a meeting of the company several days ago, the change of name was authorized and an amendment to the articles of incorporation has been filed with the Secretary of state.

This industry has grown so fast that the corporation is erecting its second five-story factory building within about one year's time. The foundation is completed for the latest unit and the superstructure soon will be under way. The building is to be ready for occupancy in the late fall.

Labor Supply and Demand

Labor supply and demand in the paper industry of Wisconsin are about equal, according to the latest survey taken by the government among the federal employment offices of the state. All plants are reported operating, with practically all of them using full three shifts. There was very little curtailment of production due to low water, as the rains have been unusually heavy and rivers were swollen to the flooding point several times.

Selling Sludge to Farmers

Stevens Point Pulp and Paper Company again has begun selling paper mill lime refuse to farmers of the vicinity. About 2,500 cubic yards will be sold this fall at a price of 75 to 85 cents a yard. Although harder to handle than marl and lime rock, the sludge is preferred by the farmers because of its quick action on the soil. A yard of sludge is found to weigh about 3,000 pounds.

To Change Name to Tumwater Paper Mills

[FROM OUR REGULAR CORRESPONDENT]

Theodore Osmund, president of the newly organized West Coast Pulp and Paper Company, which took over the old brewery plant at Tumwater, Wash., as an operating headquarters, has stated that the name of the company will be changed to the Tumwater Paper Mills.

L. A. DeGuere of Wisconsin Rapids, Wisconsin, widely known paper mill engineer, has announced that this location will be ideal as a paper mill plant.

A previously reported work will begin at once in the remodelling of the plant and about $400,000 will be spent in this work and for new machinery.

Mr. Osmund states that the pulp wood contracts have already been closed and that marketing contracts are likewise virtually complete. W. H. Trendle is vice-president of the new corporation and H. S. Gile secretary-treasurer.

Keen Competition for Timber Limits in Canada

Pulpwood and Hydro Current Sites Between Fort William and Winnipeg Sought by Commercial Interests of United States, Great Britain, and Canada—Next Session of Parliament at Ottawa to Witness Race for Control by Aggressive Combinations of Capital

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., September 20, 1926.—Commercial interests of the United States, the United Kingdom and Canada are competing for the control of the pulpwood and hydro sites between Fort William and Winnipeg. In the huge economic struggle, the water power and the material for manufacturing news print are classed as one, for hydro current is necessary for the profitable manufacture of wood products. Around Fort William, the Province of Ontario controls these two great assets, but in Manitoba the natural resources are still administered by the Federal government.

At Fort Alexander, in Manitoba, close to the Ontario border, 100 miles northwest of Winnipeg, the McArthur Pulp and Paper Corporation are just completing a 200-ton news print mill. Their concession gives them the primary selection over a timber limit of 1,000 square miles. Associated with the McArthur syndicate is the powerful Spanish River corporation and allied interests, with apparently unlimited capital.

At St. Boniface, across the Red River from Winnipeg, the Seamans, of Chicago, allied with New York and Boston capitalists, are negotiating for a 100-ton mill site. Its erection depends largely on the terms that can be made with the Federal Government for a timber limit.

Around Fort St. Francis and the International Falls, the Backus-Brooks Company and the Shelvin-Clark interests are in lively competition. The former interests have just announced the projection of a railroad from 50 to 100 miles northward in Ontario along the Manitoba border.

These aggressive combinations of capital promise lively competition at Ottawa during the next session of Parliament for timber limits and water power sites along the streams flowing into the Lake of the Woods and Lakes Manitoba and Winnipeg. For a thousand miles north of winnipeg the engineers of the conflicting interests are surveying hydro sites and timber limits. They are practically the only people who know the extent and economic value of the country.

In the race for these natural resources appears the Manitoba Power Company, representing another set of influential moneyed men, chiefly from Montreal, Toronto, Winnipeg and New York. Their interlocking connections give them tremendous advantage in the race to control the valuable power sites and timber of the vast territory being exploited. Their plans contemplate enormous expenditures in that section during the next decade.

Progress of St. Lawrence Paper Mills

The annual report of the St. Lawrence Paper Mills, Ltd., for the fiscal year ended June 30 last, just forwarded to shareholders, shows net earnings available for dividend of $435,893, as compared with $389,270 for the previous year. After the usual disbursements, surplus for the year was up at $235,893, as compared with $189,270, while net working capital is placed at $1,513,940, against $1,403,360 in the previous balance sheet.

In his statement to shareholders, N. A. Timmins, president, says:

"You have seen much comment in the papers on the possible overproduction of news print in the immediate future, but, so far this year, the consumption of paper in the United States has been largely in excess of any rate of consumption hitherto existing there.

"The cost of production for paper for the period covered by the statement was lower than in the preceding year, and the average selling price also declined. The total production of the mill for the past twelve months has been greater than for the same period last year.

"Depreciation of plant, buildings and machinery has been charged off at the rate established during the first year of the company's operations.

"During the period covered by this report, a 100-ton sulphite mill has been brought into production and the surplus sulphite sold under contract with the Mayagamack Pulp and Paper Company, Ltd.

"Your company have sold $6,500,000 6 per cent bonds and $2,000,000 6½ per cent. mortgage debentures to Nesbitt, Thomson & Co., Ltd., for the purpose of calling the old series "A" and "B" bonds, and to provide sufficient additional money to erect the plant and install the machinery required to produce an additional 175 tons per day of paper, as well as to purchase sufficient shares of the Tourville Lumber Mills Company to control that operation and harvest the pulpwood 350 square miles of both freehold and limit lands which the Tourville company owns. The purchase materially strengthens your company's timber position, as it adds one and one-quarter million cords to the standing timber, where all expensive streams improvement and timber development work is done.

"The earnings, as shown in the statement, are from the operation of a 150-ton per day mill, together with the sulphite capacity before mentioned, and does not reflect any benefit from the new financing, which provides sufficient funds to bring the plant to a capacity of 325 tons of news print paper per day. The increased capacity should, in the opinion of your directors, increase the company's earning position proportionately."

Reorganization for Mettagamie Co.

Holders of the mortgage debenture stock of the Mettagami Pulp and Paper Company, Ltd., have been called to a meeting in Montreal on October 7 to decide on a proposition authorizing the Montreal Trust Co. to bid on behalf of the debenture stock holders at a sale of the assets of the company to be held in Toronto on October 11.

The reorganization plan apparently involves the incorporation of a new company, which, after payment of all prior indebtedness, will allot, issue and deliver to the Montreal Trust Company 39,350 shares of 7 per cent redeemable preference shares, par $100, and 39,350 common shares, without par value for distribution pro rata among holders of the debenture stock of the Mattagami Company, upon surrender of their rights. Common stock will have voting power, but preferred stock only when the company has failed to pay two consecutive quarterly dividends. Preferred shares will be redeemable at 110 and may be paid for entire or in part by 7 per cent 2nd mortgage debentures or debenture stock equivalent in par value.

New Brompton Issue

During the week a new issue has been made by the Brompton Pulp and Paper Company, Ltd., of $4,183,000 first and refunding 6 per cent 20-year bonds. The offering is at 99¼ and interest, to yield over 6 per cent. The company owns and operates plants at East Angus, Quebec, producing news print, boxboard, kraft, manila and fibre paper and groundwood pulp, together with water powers on the St. Francis River capable of developing approximately 15,000 h.p., and at Bromptonville, Quebec, a plant producing groundwood pulp, to which is being added a news print mill with a capacity of 110 tons per day, which it is expected will be completed by December 1, 1926. The company will then have a total capacity in its Canadian plants of 225 tons of news print,

55 tons of boxboard, and 25 tons of kraft, manila and fibre paper per day. It also owns subsidiary companies operating in New Hampshire, close to the Canadian border, which have a capacity of 70 tons of kraft paper and 85 tons of fine bond and other paper per day.

The company and its subsidiaries own 282,102 acres of freehold lands and 633,757 acres of Crown timber leases. These areas are estimated to contain over 5,930,000 cords of pulpwood, sufficient to assure at least fifty years' supply on the present basis of operation.

New Sales Company

A new development in connection with the St. Lawrence Paper Mills, Ltd., is the formation of a subsidiary company to be known as the St. Lawrence Sales Company, Ltd., which will take charge of the entire output of the company's mill at Three Rivers. The headquarters will be in Montreal, with H. W. Cressy and T. E. Pope in charge. The former was recently associated with the St. Maurice Sales Company, and the latter with the sales end of the Belgo-Canadian Company. Both will be vice-presidents of the St. Lawrence Sales Company. By the end of the year the St. Lawrence Paper Mills will have a daily capacity of 325 tons of news print.

Experimenting With Packing Paper for Apples

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 22, 1926.—The method of controlling apple scald in boxed apples by wrapping the fruit in oiled paper, as developed by the United States Department of Agriculture, has proved so satisfactory that a modification of the method is being tested for barreled apples. When the barrel pack is used it is impracticable to wrap each apple, but satisfactory results can be obtained by scattering throughout the pack a quantity of shredded oiled paper. The department has tested the efficacy of the modified method in a commercial way for three seasons and reports that when properly distributed in the barrel or other package, shredded oiled paper has proved highly efficient in the control of the disease.

Nineteen different tests covering seven different varieties were made. In the untreated barrels from 24 to 96 per cent of the apples, or an average of 27 per cent, were scalded to such an extent as to be discriminated against on the market. On the other hand, the barrels containing shredded oiled paper showed only an average of 4 per cent of the fruit scalded. Eight of the treated barrels were entirely free of the disease. Tests have also been made with apples in hampers, baskets, and boxes with equally good or somewhat better success.

It is generally estimated that the shredded paper adds 20 to 25 cents a barrel to the cost of packing the apples. If the fruit is to pass into consumption early in the season, there may be little chance of recovering this amount in the selling price, but when it has been held beyond the peak of the season for the variety, profits several times greater than the cost have often been realized.

Shredded paper is not a guaranty against all misfortune, says the department. However, when properly applied so that each apple comes in contact with the oiled paper, it can usually be made a source of profit to the grower, and by adding to the keeping quality of the apples it contributes a stabilizing effect to the apple industry.

Soviet Orders Paper Making Machinery

WASHINGTON, D. C., September 21, 1926.—The Soviet Paper Syndicate has orderd from a German firm a paper making plant capable of producing 25,000 tons of paper per annum and three wood pulp plants, according to official reports received by the Russian Information Bureau here. These will be installed in Soviet Karelia. The paper mill will be fully electrified.

Hudson Water Power Conditions Improved

GLENS FALLS, N. Y., September 20, 1926.—Water power conditions in the Upper Hudson region have been comparatively good this season and pulp and paper mills of the territory, which are in practically every case dependent upon the Hudson River or its tributaries for operating power, lost less time during the past summer due to low water than has been the case for several years. While there have been periods when the water in the river was quite low and some mills were forced to slacken production for a time, the interruptions were less frequent and of shorter duration than for several years.

The water power situation has been one of the biggest problems of pulp and paper manufacturers of the Upper Hudson district for many years. Mill executives have always figured a certain percentage of lost time from unsatisfactory conditions. During the early spring, mills have been hampered by high water and later in the season the water in the Upper Hudson usually reaches a level where power plants are forced to shut down or run a reduced speed. Loss of production during the past summer traceable to low water conditions has been lower than during any similar period in the last ten years according to paper manufacturers.

The serious loss in production from low water suffered by pulp and paper mills of this region was the primary cause for the beginning of agitation for the establishment of a reservoir through which the waters of the Upper Hudson could be regulated and thus assure an even flow of water during the summer months, in this way eliminating enforced idleness of mills due to low water. With the establishment of the Sacandaga Reservoir through legislative action and with preliminary work on the project far advanced pulp and paper manufacturers of this district feel that it will be a matter of time when the reservoir will be in operation and closing of mills due to low water will be a thing of the past.

Pollock Paper & Bag Co. Completes Plant

DALLAS, Tex., September 20, 1926.—R. W. Richards in charge of the Fort Worth division of the Pollock Paper and Box Company of Dallas, Saturday announced that the new Dallas plant has been completed.

The company was organized in 1918 with a capitalization of $10,000 with 3,000 square feet of floor space. The new plant is 300 x 300 feet and with its equipment cost $360,000.

The first year's output of the company was valued at $36,337, while the company last year produced $800,176 worth of merchandise. The company expects the production for 1926 to reach $1,000,000.

The plant was designed by Arthur A. Brown, architect, and W. Glyn Davis, contractor, built the structure. The firm has 14 salesmen traveling in many parts of the Southwest. Several of them work out of the Fort Worth office. Seven employees worked for the concern in 1918, while the pay roll today has 150 members.

Lawrence S. Pollock is president and general manager, Leslie L. Jacobs, vice president and manager of the wax wrap division; Henry S. Jacobus is treasurer, and C. F. Kenyon is secretary.

TAPPI MEET AT YORK

(Continued from page 26)

Wentz, P. H. Glatfelter Company, Spring Grove, Pa.; Byron Weston, Mount Holly Paper Company, Mount Holly Springs, Pa.; Harry E. Weston, Thos. H. Savery, Jr., 80 East Jackson Boulevard, Chicago; M. A. Wilhelm, Schmidt and Ault Paper Company, York, Pa.; J. R. Wilken, B. F. Goodrich Rubber Company, Philadelphia; F. E. Winslow, General Electric Company, 1321 Walnut street, Philadelphia; A. D. Wood, Champion Fibre Company, Canton, N. C., and J. B. Woodruff, Holyoke, Mass.

Paper Business Becomes More Active in Toronto

All Branches of Trade Enjoying Increased Demand — Mills Quite Active and, in Some Instances, Booked for Several Weeks Ahead—Coated Paper Producers May Import Casein From New Zealand—New Line of Paper Placed on Local Market by Ritchie & Ramsay

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., September 20, 1926.—Business so far in September has proved to be quite satisfactory in the paper line and jobbers are in a very good mood over the present and future outlook. Orders for fall have been coming in larger numbers than for some time past and salesmen are presenting more encouraging reports. The mills are all busy and some have orders booked up for several weeks ahead. The demand for kraft and other lines keeps up well while toilet and tissue mills are employed to a greater extent than for several weeks back. Manufacturing stationers are getting ready holiday deliveries and, now that the federal elections and big fall fairs are over, the way is cleared for all branches of the trade devoting themselves strictly to business.

J. W. Collins, who was in charge of the New Zealand exhibit at the Canadian National Exhibition, Toronto, called upan a number of paper men and, as a result of these interviews, it is possible that coated paper producers may import casein from New Zealand, that used in Canada at the present time largely coming from Argentina. This matter will be the subject of further negotiations.

New Line of Paper

Ritchie and Ramsay, coated paper manufacturers, Toronto, are putting on the market a new line of stock, being coated on one side, and a bond on the other. It is designed to fill the demand of advertisers for a coated paper that can be used for illustrating their wares by the use of color plates and a letter combined. The body stock is a bond paper of good quality, and as the sheet is coated only on one side, the front page can be made the facsimile of a regular letter head. With this duplicate sheet the letter referring to the display, and the display of the article, are together, and overcome the chance of becoming separated and thus losing the value of the publicity. The new line is taking well.

Presentation to Popular Paper Man

Harold G. Finlay, vice president of the United Paper Mills, Toronto and Hamilton, was married at Baden, Ont., on September 18 to Miss Chressa Kline, late of Toronto. Mr. Finlay and his bride left on a motor tour to the Catskill Mountains and on their return will reside at 119 Lascelles Boulevard, Toronto. Previous to his marriage, Mr. Finlay was presented by the management and staff of the United Paper Mills with a sterling silver tea service, the presentation being made by R. I. Finlay, president of the company, who is a former president of the Canadian Paper Trade Association.

Will Interest Cape Town Trade

W. H. Smith, of W. H. Smith & Co., paper dealers, Cape Town, South Africa, recently spent a few days in Toronto and visited the Canadian National Exhibition. He called upon a number of paper dealers and manufacturers in Toronto and other centers and, before his departure, stated that he would use his influence at home to have New Zealand represented in the paper products line at the big exhibition in Toronto next year.

Labor for Bush Is Scarce

Lumbermen and pulp wood cutters, who are now engaged in logging operations, report that labor is scarce at several points in Ontario during the present time, owing to the western harvest and the large amount of outdoor construction going on. After this work is completed it is expected that the supply of men will be more plentiful. Last year wages were $30 to $35 a month with board for the ordinary laborer but this season the scale is five to ten dollars higher. One large lumber and pulp wood company in Northwestern Ontario will operate eighteen camps during the coming winter, which will be seven more than last year. Most of the camps will be for pulp wood.

Good Progress on Superior Mills

Good progress is being made on the new plant of the Superior Paper Mills, at Thorold, Ont., and the company will start making light weight papers at the end of the year. The company recently purchased the entire contents of the old Standard Mill, of the Cleveland-Akron Bag Company, located at Cleveland, Ohio, and will use this as part of the equipment of the Thorold plant.

Daverin Paper Mills Resume

The Daverin Paper Mills, Camden East, Ont., which have been idle for some months, have resumed operations, and are turning out various lines of specialties. Additional capital has been secured and the plant is now running to capacity. Mr. Stewart, of the sales staff of the company, was in Toronto during the past week calling upon the trade.

Sale of Timber Limits

The Ontario Department of Lands and Forests recently sold the cutting rights of nine square miles of timber and pulp wood in the Kenora district, known as block 8, near Hunt station, to the Anderson Lumber Company, of Fort William. The company is to pay $13.50 for the red pine; $11.50 for jack-pine, and 60 cents a cord for spruce pulp wood, in addition to the customary government Crown dues.

New Company Incorporated

A provincial charter has been granted to the Mellor Timber Company, Ltd., Port Arthur, Ont., with a share capital of $40,000. The company is empowered to carry on a general lumbering, logging and pulp wood business. Among the incorporators are Charles Mellor, merchant, of Port Arthur, and Francis H. Black and D. J. Cowan, of Port Arthur.

Pulp Workers Held Parade

Labor Day in Kenora was marked by a fine parade held under the auspices of the Pulp and Sulphite Workers Union. The team belonging to the grinder department of the Kenora Pulp Mills, which was gaily decorated, won first prize in the parade. For the silver cup donated for the best float from the various departments of the Kenora Mills, the "Woodroom" was successful. The exhibit showed the various processes through which lumber passes in that department and bore the slogan "Save the Forests."

Notes and Jottings of the Industry

E. Victor Donaldson, of the Rudd Paper Box Company, Toronto, has returned from a visit to Calgary and points west, and reports business as improving steadily in the prairie provinces.

N. E. Wainwright, of the sales staff of the Provincial Paper Mills, Toronto, was in Montreal last week attending a meeting of the book and writing section of the Canadian Pulp and Paper Association.

John B. Piper, of the staff of the Provincial Paper Mills, Toronto, has returned from a holiday motor trip spent in various points in western Ontario.

E. C. Martin, of the Interlake Tissue Mills, Toronto, spent the past week calling upon the trade in Montreal.

(*Continued on page 32*)

BIRD MACHINERY

Try one Vickery Doctor

Put it on a dryer, a calender roll, a press roll—any roll you wish no matter how badly encrusted with scale and dirt.

Watch the thin, flexible blade clean it up! In a brief time the roll will be as smooth and bright as new.

The Vickery Doctor is self-adjusting and positively non-scoring. The blade can be renewed in two minutes. It is the one doctor that is trouble-proof.

For better finished paper and to save steam you need to be equipped with Vickery Doctors.

Try one and prove it to yourself.

BIRD MACHINE COMPANY
SOUTH WALPOLE MASSACHUSETTS

The VICKERY DOCTOR

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Early Fall Paper Business "Spotty" in Boston

Specialty Houses Report One of Best Seasons in Years—Demand for Kraft Papers Has Also Been Excellent—Fine Paper Industry Encouraged by Volume of Inquiries for Holiday Orders—Tissues, Gummed and Waxed Papers Had Excellent Beach and Resort Trade

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., September 18, 1926.—Following a listless summer, Boston seems destined for a similar September. Prophets, who a month ago forecast a noticeable pick up in local trade in September, today are busy trying to find an alibi, and there isn't any. The best one can say of local trade is that it is spotty. Here and there may be found those houses who are reporting good business, but a careful survey, together with frank statements by those executives who ought to know, show that business is far from what it should be in Boston.

Practically everybody is back from vacation. The men are out on the road. The merchants and dealers are well stocked. New lines have been added, more are contemplated, everywhere there is enthusiasm and optimism, but the rock-bottom, substantial, early fall business is resting somewhere alongside the road. When it decides to get up and come along there will be a royal welcome.

Boston, like every other city, has its "ins and outs," in other words, paper houses that enjoy feast days while others are enjoying fast days. For instance, the specialty houses, now just tabulating the totals for their summer trade, report one of the best seasons in years. It was a big season for tissues, gummed and wax papers, and all of the specialties for beach and resort business. Some lines of Kraft shared in the seasonal trade.

While these houses were reaping the harvest most of the other branches of the trade were practically at a standstill. But now, the tables are turning just a little bit, and the other fellow is beginning to taste the fruits. The fine grades houses have had a spurt of late, due chiefly to lively political doing in these parts. The town has been literally flooded with posters, fliers, and plenty of other kinds of political advertising. The mails have been swamped with it. Of course, this all means business for the printer and the printer, in turn, must have his stock.

Also these same houses are getting a line on the early holiday orders, queries already having been sent in. Greeting cards men are in the field and they too are about to start some real business. In addition the social season is ready to start up, and Boston's social calendar always being a full one, business is expected from that quarter. Incidentally, some of the merchants have some stunning assortments to offer Back Bay and Brookline this fall. Colors are running in the lead, soft tints predominating. Some of the houses are already calling for special engraving stock and calling cards. Sulphite bonds are in heavy demand, prices taking a generous drop all along the line, in some cases a cent and a quarter a pound, this by one of the manufacturers.

With the shoe and textile industries on the upgrade, the paper box men are beginning to see a little light. Some fair orders have been placed, but the real business is not expected to show itself until the retail trade in Greater Boston improves, which it is showing signs of doing these days. Some talk of a price drop in straw and chip boards was indicated two weeks ago but nothing has come of it yet. A few of the larger dealers are out after holiday orders already and not a few have been registered.

The raw stock division is dull, just as dull as it has been for many months. Once in a while a good order is placed but the general condition in this branch of the industry, according to at least three of the veterans, is away off, and there is little indication of improvement. The mills are reported to be in good condition so far as stock is concerned. They are running pretty well on schedule but raw stock does not seem to be in demand. One manager ventured to state that some buying should begin in October, but he was not joined by others in this opinion.

Generally Boston is off, but the consensus seems to be that there will be a different story to tell by the last of the month when everybody will begin to get the fall stride.

So far as the social activities of the trade is concerned it looks like a lively winter with the Boston Paper Trade Association and the New England Association lining up programs.

MORE ACTIVITY IN TORONTO

(*Continued from page 30*)

A. P. Costigane, Secretary-Engineer of the Ontario Pulp and Paper Makers' Safety Association, Toronto, has accepted an invitation to attend the annual convention of the National Safety Council in Detroit next month.

Mr. Harris, of Bradley & Co., Ltd., who are representatives of the Wayagamack Pulp and Paper Company, in Hong Kong and Shanghai, China, spent a few days in Toronto last week on business and reports a good demand for kraft paper.

E. H. Wilkinson & Co., 101 McKinnon Building, Toronto, who have been established as direct paper mill representatives, are handling news print, as well as lace papers, doilies, etc., for Bender & Co., of London, England; and book cover papers for the Oriental Leatherette Company, of London, England.

Al. Mitchell, who covers Western Ontario for the Rudd Paper Box Company, Toronto, was married recently to Miss Buchanan of the office staff, and is receiving many congratulations.

The Toronto Carton Council will hold its next quarterly meeting in Guelph, Ont., where the members will be entertained by J. J. Small of the Guelph Paper Box Company and pay a visit to the golf and Country Club.

E. Earl Milligan, Treasurer of the Seaman-Patrick Paper Company, Detroit, was in Toronto during the past week, the guest of Fred W. Halls of the Fred W. Halls Paper Company.

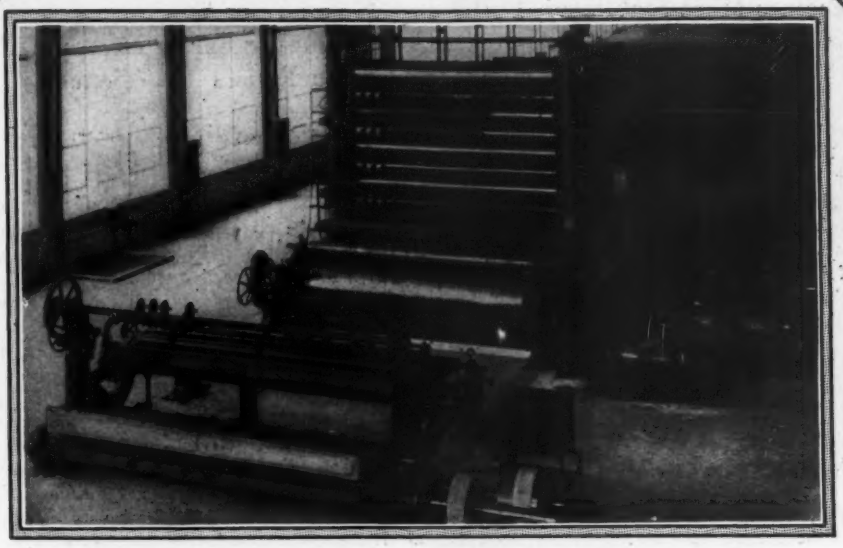
A. E. Rudd, founder of the Rudd Paper Box Company, who has been spending the past few weeks at Bigwin Inn, Huntsville district, was in Toronto recently on his way home to Los Angeles, Cal., where he now resides.

The Ontario Department of Lands and Forests is advertising the sale of pulp wood and other timber in the townships of Duff and Ottaway, district of Cochrane, consisting of some 70 square miles. Bids will be received until October 1. The sale of pulp wood and other timber in the township of Marven, district of Cochrane, consisting of 60 square miles, is also being made at the same time.

Paper Index Number for August Lower

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 21, 1926.—The August index number for wholesale paper and pulp was 171.8 compared with 175.3 for July and 186.5 for August of last year taking 1913 at 100 according to the Bureau of Labor statistics.



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Ball Bearings Put Continuous Production Into Your Paper Mill

New Departure Ball Bearings do not wear to an extent which would require "taking-up" or readjustment of any kind.

What does this mean to you?

Any bearing which *does* wear automatically changes the relationship of closure devices and therefore *cannot* be housed permanently to keep out water, acid fumes and other foreign destructive matter.

But with New Departures lending themselves to oil-retaining and dirt excluding housings, your production schedule need never be held up because of bearing failures.

New Departures give you many other advantages, but this feature alone should make you interested in studying their possibilities in safeguarding your production and lowering its cost.

Technical application data and engineering consultation service upon request.

The New Departure Manufacturing Company

Detroit Bristol, Connecticut Chicago

New Departure Quality Ball Bearings

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Philadelphia Paper Trade Steadily Progressing

Local Market Becomes More Stabilized, Following Resumption of Normal Industrial Operations—Wholesalers Report Fine Paper Business Running Far in Excess of Preceding Year—Encouraging Demand for Coarse Papers Experienced

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., September 20, 1926.—With the mid-September days, the paper trade made steady progress in the way of business activity and broadening of distribution to a more generalized type. In both the coarse and fine paper divisions the expansion of purchases was of an early Fall character, in line with the resumption of industry and operations of all the larger enterprises in the Quaker City, The noteworthy factor in the local paper market is the entrenchment of the distributors in a stabilized market. Stocks have been held down to the needs of the moment and no accumulations are now available for the inroads on values co-incident to the overstocking in some grades, notably those that were being offered below mill quotations in the mid-summer days. Mills, like the distribution, have apparently been confirming their operations and productions to immediate orders or for those of the next few weeks only and are firmly established on the price situation and stocking problem. This, the dealers in the Philadelphia trade believe, will have a marked benefit in the stabilizing of the market for papers this autumn.

Fine Papers Moving in Larger Volume

While most incoming orders for the various lines of fine papers are confined to small quantities, they bulk into considerably larger volume than for the past three months. Wholesalers report that present business and that of the mid-summer months was far in excess of the same period of 1925. They state that the publishers of periodicals have been enjoying vastly increased advertising and with this an extension in circulation and consumption of paper. Book and coated papers of the lower priced stocks have been the most active of the wholesale market, while the publishers of books and high grade magazines have been consuming larger volumes of the better grades of coated and book papers closely on an average with the popular priced grades. Printers and advertising printing concerns have been coming into the Quaker City market for more frequent orders of all the commonly used printing stocks. Writing papers and bonds of the well known brands are moving in freer channels to the stationery trade with the opening of Fall business and the school term. Manufacturing stationers have been assuming livelier business speed with the return to autumn activities, and consequently larger volume of these grades, too, are moving from stock rooms.

Coarse Papers Improve

The demand for coarse papers was more of a generalized character, extending throughout the entire line. Present orders are encouraging and indicate that there are few stocks in the hands of the consuming trades. Absence of over-production among the mills and paucity of stocks in the hands of the dealers have steadied the market so that it is now on a sound basis for the upward swing of the Fall months. Southern mills have been shipping a considerable amount of kraft to Philadelphia dealers through the local ports. Krafts are now quoted ¼ cent higher than the Spring values. Tissues are reported steadier and in greater demand. The box board market remains firm, with chip board at from $40 to $42.50. News boards is quoted $2.50 per ton higher than chipboard.

Paper Stock in Demand

The mills have been steadily consuming all available supplies of paper stock of the cheaper grades and prices have been advanced due to the keener competition of mill bidding. Rags were quieter and slower in moving from the local wholesalers hands. Eastern manufacturers are the larger consumers of the paper stocks from the Quaker City markets.

Paper Trade Association Meetings

Owing to the absence from the city of many of the members, the meeting of the Philadelphia Paper Trade Association held during the week were devoted to general discussion of business conditions. There were two meetings scheduled for the trade organization, but owing to insufficient members to make up a quorum no important matters were taken up. The quarterly meeting of the Philadelphia Paper Trade Association was postponed until January, while the meeting of the Wrapping Paper Division held in the Bourse was given over entirely to the matter of general business conditions. All were united in the belief that conditions warrant an optimistic attitude for Fall business. President David Lindsay, Jr., of the Philadelphia Paper Trade Association, occupied the speakers' platform at the quarterly meeting of the association in the Chamber of Commerce and led the discussion on trade topics. With the September meeting, the association opened its series of regular monthly gatherings, to be continued throughout the season after irregular summer sessions.

Philadelphia Paper Men in Golf Tournament

Quaker City paper merchants will join with their brethern from all parts of the nation in the annual Fall golf tournament to be held this week on the links of the Manufacurers' Country Club at Orland, Pa., September 21 and 22. The annual event is fostered by the Philadelphia Paper Trade Association and includes their guests from all parts of the country who have been invited by the local dealers to participate in the autumn tournament. There are two of these golfing events scheduled annually, one in springtime and the autumn contest. The spring golfing tournament is confined to the local trade and its associates in the Graphic Arts Golf Club whose membership includes the printing and allied industries affiliations.

Two plays are scheduled for each day of the tournament. On Tuesday morning will be the qualifying round, with matched plays in classes for the afternoon. On Wednesday morning will be the match play in classes for the beaten fours to play for consolation awards while Wednesday afternoon will be given over to the Final Round for Championship in all classes, and the Kickers Handicap, with its award to the low net scorer. There will be prize awards to the winner of each eight and the winners of the consolations or defeated four of each eight.

The committee in charge of arrangements are providing, in addition to the out-door events, a banquet to be served in the club house, and other social diversions. Those in charge of the arrangements and represent the Philadelphia Paper Trade Association are: Arthur B. Sherrill, David Lindsay, Jr., Allen E. Whiting, Irwin Megargee, and E. A. Weihenmayer.

Forest Mills Reorganize

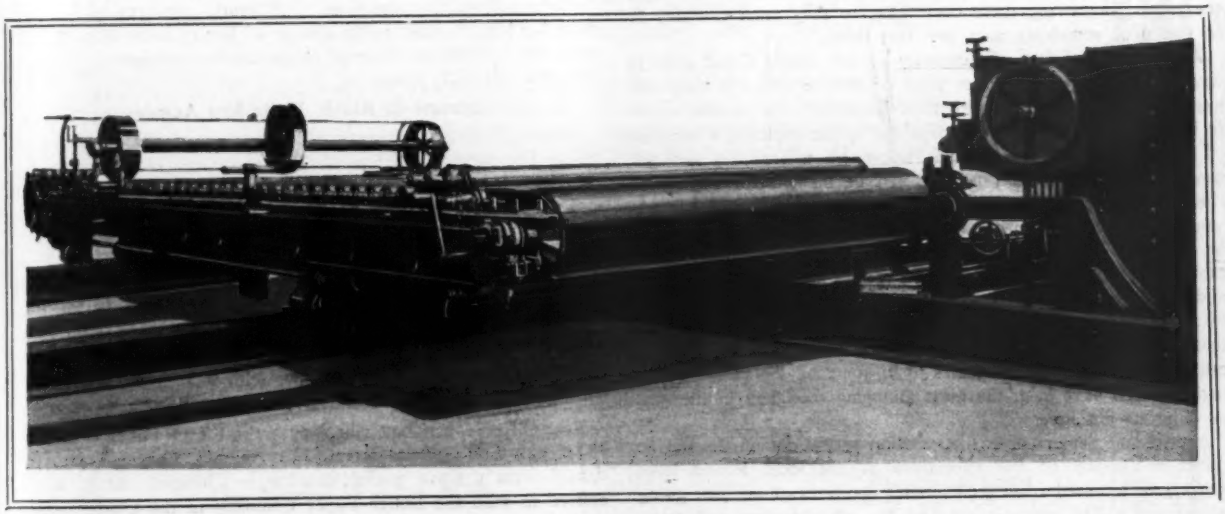
Following the financial adjustment of the Forest Mills, formerly conducted by Elmer Garrett at Willistown, near Westchester, Pa., the reorganization of the company wil be arranged by the banking institute identified with its affairs. Under the jurisdiction of the National Bank of Chester, Pa., the company's affairs will be adjusted, and a reorganization perfected. With the plan of reorganization, the bank will arrange for the reopening of the mills, among the oldest in this section of the country, for more

(*Continued on page 40*)

Rolls out as a unit!

38 Removable Fourdriniers
(Beloit Patent U. S. & Canada)
Running and Building.
Better Satisfied Men.
No more back breaking.
No more heavy lifting.
New wires put on in an hour or less, if desired.
No more damage to rolls and bearings.

Canadian Licensee—Dominion Engineering Works, Ltd.



Record As A Money-Earner

"... holds the best record as a money-earner of any machine in the United States on like products—which has been justified by the judgment of some of the best men in the country."

The NEW BELOIT FOURDRINIER

FOUNDED 1858 BELOIT IRON WORKS PAPER MACH'Y BELOIT WIS

BELOIT IRON WORKS **Beloit, Wisconsin, U. S. A.**

Paper Business Keeping Up Well In Los Angeles

Jobbers Report That Trading During July and August Was Far Above Average For This Period—Coarse Paper Production of Far Western Mills Believed to Be Large Enough To Take Care of All Requirements for That Territory—Collections Slow

LOS ANGELES, Cal., September 17, 1926.—Ordinarily about this time of the year the paper trade shows considerable accession of interest, but this year is an exception to the rule and there is nothing much to crow about, other than that the volume of trade keeps up well and is about equal to that of the last two months. In fact, one or two of the paper jobbers say that August gave them the biggest volume of business they have ever enjoyed during any month in their history in Los Angeles.

In other words, the usual summer slump in the paper business did not materialize this year at all, but during the months of July and August there was a continuous volume of business which placed those months far above the average. Consequently, if September continues as it has begun, it will but rival what was done during the two preceeding months.

Furthermore, there does not appear to be any radical changes in prices to be noticed. Both the volume of trade and the prices at which that volume is being done appear to be running along on an even keel with no storm clouds in sight to warrant furling the sails. Of course, out here there is always more or less dissatisfaction regarding the conditions in the market for coarse papers, but the causes for those conditions have been detailed several times in these despatches and for the present at least there seems to be no way in which they can be mended. About all the paper factors here can do is to make the best of a bad situation and go ahead, hoping for a change in the better some time in the future. But apparently no one is disposed to tackle the job of improving these conditions, so they must continue to be bad until somebody does just that thing.

As a matter of fact, the capacity of the Pacific Coast mills is ample to supply every paper need of this territory if only the buyers would favor them with their business. The trouble seems to be that too many men are attracted by the apparent advantage of low prices, and confer their patronage where they can get those prices. Of course, no one can be blamed for buying as cheaply as possible, but it is sometimes true that the higher advantage lies in patronizing home industry. However that may be, the fact remains that the far western mills are abundantly capable of taking care of the entire volume of business out here, and from present indications they soon will be in a position to turn out a far larger volume than the west can absorb, and when that time comes maybe they will turn their eyes toward the central west and turn the tables upon some of the mills in that region which have been the most annoying offenders in the past by dumping out here.

August and September is the vacation period out on the Pacific Coast and many of the executives of the local houses have either just returned from their annual vacations or are just going upon them. The same is true of the office forces, and many offices look as if they were running short handed. In another two or three weeks everybody at work things will begin to hum.

Collections are reported rather slow, but not alarmingly so. Many lines of business in the far west have experienced something of a depression during the last few months and this is affecting the paper trade, not especially in cutting down the volume of business but in slowing up collecting the money for it. Nevertheless, most of the jobbers feel that this is but a temporary condition and say that things will come out all right in the end.

Printers Using Less Paper

Apparently the one most affected among the consumers of paper stock is the printer. It is reported that many of the printing shops, especially among the smaller fry, are running at far less than their usual volume of business and consequently are using less paper. In the face of this statement it may look like a contradiction to extoll the volume of the paper trade when so large a class of consumers is using less than usual. In fact, there does not appear to be any explanation for such an anomaly, unless it be that the larger business corporations are using more than their usual amount of paper, thus making up for a deficiency in the demand from the small business houses.

More About Paper Box Trade Conditions

In the last letter from this part of the country something was said about conditions existing in the paper box trade. This morning your representative was talking with the manager of the paper box department of a concern which makes no boxes itself but which jobs boxes made by other concerns. He says the trouble is that practically every box maunfacturer is so avid to get big orders that he is willing to cut the price to the quick in order to land them. Whereas, if he would ignore the big orders for a time and confine his attention to the small orders, he would keep just as busy and would make far more money than he is now.

The fact is that the big users of paper boxes realize the advantage to themselves of jockeying with the box manufacturers, who, in their turn, are so jealous one of another that none ever thinks of investigating any statement made to him regarding prices made by a competitor, to the end that the consumer of the boxes gets all of the advanage of every deal. The solution of this is obvious—organization. But, who is going to organize the manufacturers, that's the question. Apparently whoever attempts it must lay himself open to the charge of having some ulterior purpose, but nevertheless he must be courageous enough to overcome this and to live it down.

Samuel C. Knode Visits Los Angeles

Samuel C. Knode, representing the Albemarle Paper Manufacturing Company, of Richmond, Va., was a recent visitor to Los Angeles. During the time he was here he read of the series of storms, floods and other weather calamities which have been afflicting the east and the middle west recently, and was so impressed by the contrast afforded by the beautiful weather conditions persisting in California that he went to the news stand and blew himself for a whole flock of picture post cards depicting some of the Pacific Coast beauty spots and sent them to his eastern friends. Mr. Knode makes about two trips a year and each time he falls more and more in love with it.

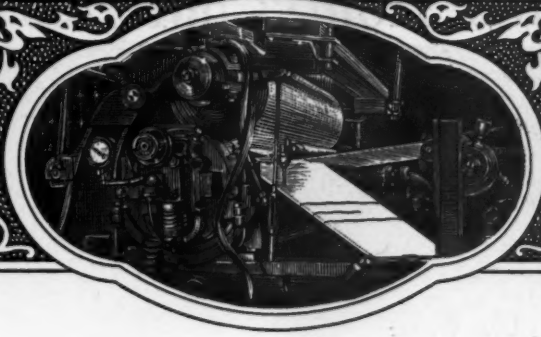
O'Keefe Returns from Vacation

Tom O'Keefe, assistant manager of the Sierra Paper Company, 130 South Los Angeles street, Los Angeles, Cal., has just returned from a three weeks' vacation in Chicago. Mr. O'Keefe started in with the Butler Paper Company in the Chicago office in 1914 and this was his first visit to "his old home town" for four years. He says he had a great time and reports business conditions in the Windy City as booming.

Paper Specifications Committee to Meet

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 21, 1926.—It is expected that the first meeting of the paper specifications committee of the Joint Congressional Committee on Printing will be held in October to discuss the new specifications for paper for the Government Printing Office for the fiscal year beginning March 1, next. Some preliminary work on the schedule has already been done by officials of the Printing Office. The same committee will act as last year of which F. P. Veitch, chief of the Paper Laboratory, of the Bureau of Chemistry is chairman.



It's the experience built into them that counts

THERE are two paper machines running side by side. To all outside appearances both are alike, both run at the same speed, and both produce the same type of paper.

Yet, one of those machines will require a felt of different specifications than the other—a few more threads to the inch, a little difference in the mixture of the wool, or even an altogether different type of felt. And it's only a felt man who will know it.

Felts are a problem which cannot be solved by any rule of thumb. They must be worked out individually, not alone for each mill, but for each paper machine. Their ultimate satisfaction depends upon the ability and experience built into them.

In back of Hamilton Felts are more than three generations of felt making experience. This experience assures you of felts that combine maximum toughness with maximum water removal; that save steam because they deliver a drier sheet to the dryers; and that save down time and broke because they require less washing.

In a word, this experience assures you of felts that decrease your cost per pound of making paper.

It's to your own advantage to try Hamilton Felts.

There's a Hamilton Felt to meet every requirement. The Hamilton Felt Man who calls on you is a practical felt man. He knows felts and can recommend one which will meet your conditions ideally.

SHULER & BENNINGHOFEN **Hamilton, Ohio**

The Miami Woolen Mills **Founded 1858**

Hamilton Felts

Associate Mills Hold Conference at Holyoke

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., September 21, 1926.—The Fourth Annual Mill and Merchant Conference of the Associate Mills (Crocker-McElwain Company and Chemical Paper Manufacturing Company) of Holyoke held at the Hotel Nonotuck, yesterday and today, attracted the largest attendance of paper merchants ever present at any of these conferences. From the far west, east and south representatives of the leading paper distributors arrived here to give up two days of intensive discussion of the sales problems of the above mills which they represent.

Address of Welcome by C. A. Crocker

These conferences are serious affairs and of a strictly business nature and as much has to be accomplished within a short time, the discussions are kept close to schedule so that every feature of the business program receives its full measure of attention. The conference opened yesterday morning with an address of welcome by Mr. C. A. Crocker who outlined the program of the meeting and what it was hoped to accomplish in a short space of time. The rest of the morning session was taken up with a general discussion on new lines, conditions and trends in the merchandising of paper.

Divisional Meetings

After lunch the afternoon was devoted to divisional meetings covering the various grades of paper made by the Associated Mills. These meetings were presided over by Walter E. Perry and J. E. Holmes and the subjects of Agency Relations, advertising campaigns, and advisory committee reports were threshed out.

Last evening the banquet was held in the large ball room of the hotel and nearly two hundred representatives and their wives enjoyed an informal affair, featured by an illustrated talk by Rev. J. Gordon Gilkey which covered a trip he recently made from Vancouver to Yukon, Alaska.

Competitors Present as Guests

As has always been the custom of the Associated Mills, they had as banquet guests manufacturers of competitive lines included among whom were S. L. Willson, president of the American Writing Paper Company, W. D. Judd of the Carew Manufacturing Company, H. L. Harrington of Berkshire Hills Paper Company and F. E. Taylor of Taylor-Logan Company.

This morning's sessions were given over to divisional metings, presided over by Walter E. Perry and Gordon Blanchard, during which further plans were outlined as to policies to be adopted for the marketing of cover papers and ledger papers.

The sessions today closed promptly at noon when the guests were taken to the Springfield Country Club for lunch and then attended the Great Eastern States Fair at Springfield. Those interested in golf lunched at the Longmeadow Country Club where they tested their latest Jones and Evans strokes.

Among Those Present

Among those present at the conference were:

C. A. Crocker of the Associated Mills.

R. F. McElwain of the Associated Mills.

F. F. Albershart, Albershart Paper Company, Cincinnati, Ohio. Geo. D. Allen, Knight, Allen & Clark, Boston, Mass.; H. M. Alling, Arnold-Roberts Company, New Haven, Conn.

Leon Beck, Chas. Beck Company, Philadelphia, Pa.; C. J. Brainard, Brainard Paper Company, New York City; Lee Buchanan, Chope-Stevens Paper Company, Detroit, Mich.; N. S. Brown, General Paper and Cordage Company, Pittsburgh, Pa.

John F. Church, Cincinnati Cordage and Paper Company, Cincinnati, Ohio; G. G. Custer, W. F. Nackie Paper Company, Milwaukee, Wis.

H. F. Donahue, Molton Paper Company, Philadelphia, Pa.; J. J. Dorsey, F. A. Flinn, Inc., New York City.

Chas. A. Esty, Chas. A. Esty Paper Company, Worcester, Mass.; S. L. Evans, Arnold-Roberts Company, Boston, Mass.

L. R. N. Gardner, R. L. Greene Paper Company, Providence, R. I.; S. B. Gaines, Irwin Paper Company, Quincy, Ill.; S. G. Garner, J. E. Linde Paper Company, Newark, N. J.; W. N. Gillette, Chicago Paper Company, Chicago, Ill.; Benjamin Gelb, Manhattan Cordage and Paper Company, New York City; Max Greenbaum, Beekman Paper and Cordage Company, New York City.

A. C. Hall, John Carter & Co., Boston, Mass.; C. C. Hoffman, Donaldson Paper Company, Harrisburg, Pa.; Wm. M. Holden, Holden & Hawley, Inc., New York City.

F. O. Isham, Moek Paper Company, Springfield, Mass.

J. B. Jones, Western Newspaper Union, Omaha, Neb.; Harry Joyce, Empire Paper Company, Chicago, Ill.; B. Judd, Potrequin Paper Company, Cleveland, Ohio; P. M. Judd, Judd Paper Company, Holyoke, Mass.

R. M. Keogh, Buyers Paper Company, Dayton, Ohio; Alfred Kinn, J. E. Linde Paper Company, New York City; A. E. Kinn, J. E. Linde Paper Company, New York City; C. Knight, Knight, Allen & Clark Company, Boston, Mass.; M. Kochman, Manhattan Cordage and Paper Company, New York City.

Miss Bessie Lastfogel, Union Card and Paper Company, New York City; Spencer Lathrop, Lasher & Lathrop, Inc., New York City; Frank Lathrop, Lasher & Lathrop, Inc., New York City.

Mr. McKinney, F. A. Flinn, Inc., New York City; W. J. McLellan, Carter, Rice & Co., Boston, Mass.; W. E. McNaught, Globe Paper Company, Boston, Mass.; Bryant McQuillan, Storrs & Boment Company, Boston, Mass.; Albert Miller, Central Ohio Paper Company, Columbus, Ohio; J. A. Mallalieu, Geo. W. Millar & Co., New York City; John Matthews, Parsons & Whittemore, Inc., New York City; H. W. Matthewson, Paper Supply Company, Minneapolis, Minn.; Stanton Mott, Waldon, Sons & Mott, New York City; W. M. Moek, Moek Paper Company, Springfield, Mass.

Jacob Nacht, Union Card and Paper Company, New York City.

E. H. O'Hara, Seymour Company, New York City.

J. F. Peacock, Cleveland Paper Manufacturing Company, Cleveland, Ohio; A. H. Phillips, Troy Paper Company, Troy, N. Y.; L. D. Post, The Paper Mill, New York City.

Wm. H. Rourke, Rourke-Eno Paper Company, Hartford, Conn.; H. W. Rowe, Dobler & Mudge, Baltimore, Md.; P. K. Roth, Urquhart Paper Company, New York City.

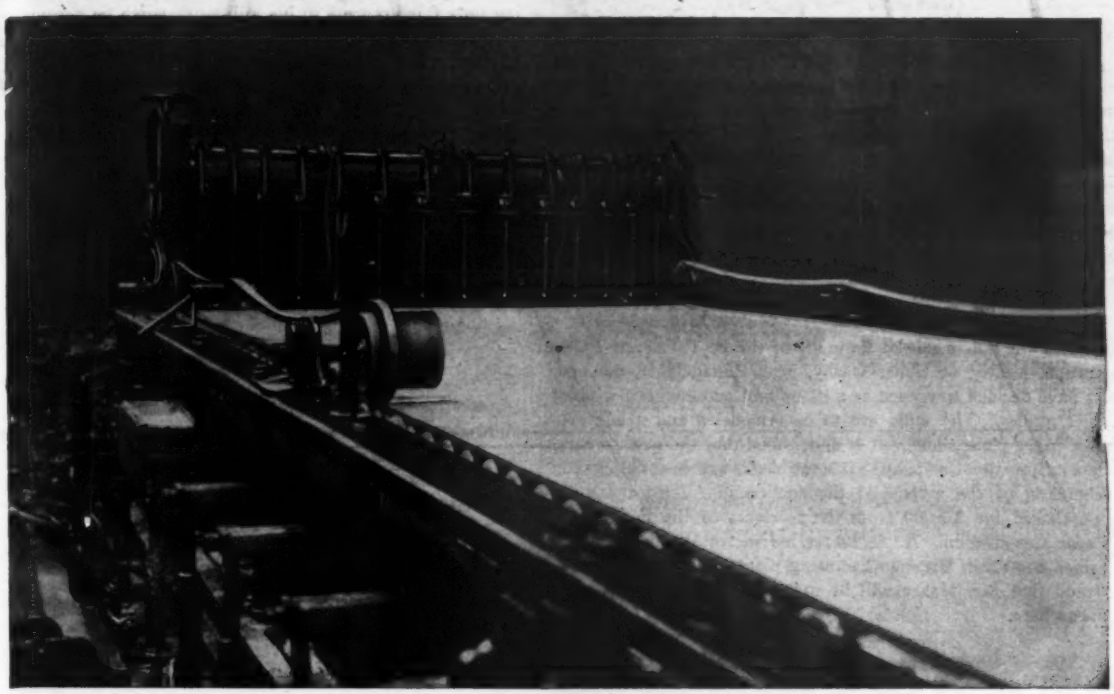
Wm. Steadman, J. E. Linde Paper Company, New York City; Louis Schuman, Manhattan Cordage and Paper Company, New York City; L. A. Smith, Field-Hamilton-Smith Paper Company, Omaha, Neb.; Brad Stephens, Boston, Mass.; W. B. Stevenson, Storrs & Boment Company, Boston, Mass.; C. Raymond Smith, Van Reed Paper Company, Reading, Pa.

Al. Tennyson, R. P. Andrews Paper Company, Reading, Pa.; A. A. Tanyane, PAPER TRADE JOURNAL, New York City; H. B. Thurston, Conrow Brothers, New York City; C. W. Townsend, Logan, Swift & Brigham Envelope Division, U. S. Envelope Company, Worcester, Mass.

C. K. Urquhart, Jr., Urquhart Paper Company, New York City.

H. E. Waite, John Carter & Co., Boston, Mass.; C. T. Waite, John Carter & Co., Boston, Mass.; H. A. Washburn, Messinger Paper Company, Chicago, Ill.; K. S. Warner, John F. Sarle

(*Continued on page 68*)



Speeding up Production and Maintaining Quality

The general tendency of speeding up production frequently requires the sacrificing of a certain quality in paper. The slice method is at best only a makeshift in preserving quality at higher speeds. Below is an excerpt of a letter from a manufacturer who experienced the above difficulty:

"Like all mills we are after more production and at the same time we want to keep up our quality. As we speed up we find that we have trouble in forming the sheet and we wonder if you could overcome the difficulty with the Inlet."

The answer to this is—The Voith Inlet will allow for comparatively faster machine speeds without sacrificing quality, when ample drying capacity is available. The stock is correctly discharged onto the wire and more of the wire surface is used for formation purposes. We will be glad to give you further information about this patented machine. A 20-page booklet will be mailed to you on request.

5% to 10% INCREASE IN PRODUCTION

The Voith Inlet makes possible an increase in production of between 5% to 10%, in some cases more depending on the drying capacity of the paper machine. A 200" trim machine in an Eastern mill was probably making book paper at a higher rate of speed than any other machine operating on the same grade of paper. Nevertheless, the speed of this machine has been increased (10%) 50 feet per minute by the Voith Inlet, and a better sheet of paper is being made. Like increases have resulted in numerous other installations.

VALLEY IRON WORKS CO.

APPLETON, WISCONSIN

New York Office: 350 Madison Avenue

PROGRESS IN PHILADELPHIA

(*Continued from page 34*)

than a century engaged in the production of paper, and originally the property of J. M. Duckett, located less than a mile from the original Garrett Mills dismantled fifteen years ago. Under the present ownership of Elmer Garrett the mills have been devoted to the production of chip and news boards and sheathing papers. Five years ago the mills passed into the hands of Elmer Garrett, affiliated with one of the pioneer paper making families of Pennsylvania, with several members still engaged in the local industry. Under the plans for reorganization, the mills will again, it is believed, resume the manufacture of paper boards and sheathing papers.

To Rebuild Upper Darby Mills

Following the public sale of the mills of the E. T. Garrett Paper Corporation, located at Upper Darby, near Philadelphia, the new owners have decided to reopen as a tissue mill and converting plant for toilet grades. The mills are to be remodeled and a converting toilet paper plant added. It is understood that the new owners, the Paper Specialty Company, of New York, are negotiating for the rebuilding of the mills. At the auction in August the mills were purchased for $35,000 from the receivers of the E. T. Garrett Paper Corporation. A. A. Mazer bid in for the new owners and gained control of the manufacturing plant and property. It is understood that Mr. Mazer will be in charge of the business located near here.

August News Print Statistics

Production of news print in the United States during August, 1926 amounted to 139,259 tons and shipments to 136,564 tons, according to the News Print Service Bureau. Production in Canada amounted to 162,545 tons and shipments to 160,031 tons, making a total United States and Canadian production of 301,804 tons and shipments of 296,595 tons. The news print mills also made 1,895 tons of hanging paper in August, 735 tons of which were made in Canada.

During August 15,661 tons of news print was made in Newfoundland and 1,102 tons in Mexico, so that the total North American production for the month amounted to 318,567 tons. For the eight months of 1926 the Newfoundland output of news print totaled 117,065 tons, an increase of 143 per cent over 1925, and the Mexican output, 8,217 tons, a decrease of 4 per cent compared with the previous year.

During August the United States mills operated at 94.2 per cent of rated capacity and the Canadian mills at 97.4 per cent.

The United States mills made 12 per cent more in the first eight months of 1926 than in the same period of 1925, and the Canadian mills made 23 per cent more than in the first eight months of 1925.

The combined production of the United States and Canadian mills in the first eight months of 1926 was 17 per cent more than in the same period of 1925.

Stocks of news print paper at United States mills totalled 19,098 tons at the end of August and at Canadian mills 15,624 tons, making a combined total of 34,722 tons, which was equivalent to 2.9 days' average production.

Jake Kindleberger Meets Old Pastor at Toledo

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, September 22, 1926.—Jacob Kindleberger, a former employee of the old J. H. Friend paper mills in West Carrollton, now the rebuilt and improved Miami Paper Company, made it a point to attend the sessions of the Methodist Episcopal church conference at Toledo the past week so he could hold a reunion with his old friend and former pastor, Rev. John L. Dalby.

Rev. Mr. Dalby was the minister who presented to young Kindleberger, now president of the Kalamazoo Vegetable Parchment Company, a $7,000,000 concern, the necessity of his joining church. Kindleberger suffered from poor eyesight and was making only fair progress in his mill work when he became interested in the church, and the welfare work of the paper company. As he now puts it, though "he went to church to ridicule the pastor," he really was led to the sacred edifice to begin a new life, and one which led him on to success. After receiving promotion to the salesmanship force of the paper company, he heard of a field for a paper mill in Michigan and embarked in that enterprise, making vegetable parchment paper the principal product. The success of the venture is well known in the trade.

Rev. Mr. Dalby now is a retired minister and when "Jake" Kindleberger heard his old friend would attend the church conference, he decided to make a special trip from Michigan to join him and talk over "old times."

Mattagami Company Making Profits

TORONTO, Ontario, September 20, 1926.—Evidence of steady improvement in the financial condition of the Matttagami Pulp and Paper Company, whose plant is located at Smooth Rock Falls, during the past five years was given recently by G. T. Clarkson, the liquidator, at the hearing before Charles Garrow, K.C., Master of the Supreme Court, in the proceedings instigated by the trustee-in-bankruptcy, and certain security holders and unsecured creditors of the company, against I. W. Killam, the Royal Securities Corporation, and the Montreal Trust Company.

The plaintiffs claim that a second mortgage debenture issue of the company, representing over $3,000,000, is illegal, in that it was not sanctioned by the full board of directors, according to the by-laws of the company. It is also contended that I. W. Killam, a director of the company, should be required to account for any profits taken by him by reason of the increase in value of the debenture stock or bonds purchased by him or on his behalf, after the company went into liquidation.

It is argued that, as a director of the company, Mr. Killam was in a position of trust, which would disentitle him to deal with the assets of the company so as to derive any personal benefit.

The various matters in dispute were referred to Mr. Garrow by Justice Middleton, who will consider the Master's report and deliver his judgment in due course. The action arose in connection with the proposed sale of the properties and assets of the company.

Griffith-Hope Co. Move to Large Quarters

The Griffith-Hope Company, manufacturers of towel cabinets and fixtures for the paper trade, will be located in a new plant at 57th avenue and Mitchell street, West Allis, Wis. West Allis is a suburb of Milwaukee where a large number of industrial plants are located.

The plant is being moved into the larger factory chiefly because of the increase in the towel and tissue cabinet branch of the firm's business. In the new factory it will have many facilities which were not obtainable in the present location and it is the aim, with these new facilities, to continue to improve its products and to increase its service to its clients.

I. P. To Build Mill in Louisiana

The International Paper Company is planning the establishment of a new mill in northern Louisiana for the manufacture of kraft paper, used for wrapping, bags, etc. The company has just purchased 110,000 acres of timberlands in that section of the state for raw material.

The contemplated mill will have a capacity of 150 tons of paper a day. A location near the company's present kraft mill at Bastrop, La., is being considered.

"The Toledo Scale has saved us from 20 to 30 seconds on the weighing of each package"

—Spencer Kellogg & Sons Inc.

THE statement above is quoted from a letter from the Cincinnati branch of Spencer Kellogg & Sons Inc., manufacturers and national distributors of linseed oil.

This is one specific case out of many in all lines of industry in which savings are accomplished by the use of Toledo automatic scales.

Material usually is weighed or parts counted:

When received.
When issued to production departments.
In transit between departments.
During manufacturing processes.
For cost records or inventory.
To determine the pay for piece work.
To determine freight or express charges or postage.
To determine the amount of invoice for the product itself.
For special purposes.

Time is wasted and mistakes made in these frequent operations, when workmen have to put on and take off loose counterbalance weights, move a poise on a weigh beam, judge when the beam is in balance, read the weight indicated in small figures and markings on a beam from 12 to 24 inches, and add to this the values of the loose weights.

With Toledos the operator has only to put on the load and read the weight in plain figures on a dial from 5 to 7 feet in circumference. Toledos save thousands of half-minutes and stop thousands of small losses.

A check by a Toledo scale man will show whether losses occur in the weighing or counting operations in your plant. This check will cost you nothing. It may save you much. Write us for particulars. Kindly address Industrial Sales Department, Section G.

Scales for The Paper Industry

For use in the paper industry there are Toledo Automatic Scales especially adapted for:

General weighing

Weighing-in baled rags, baled paper, pulp laps, chemicals

Checking production of sorters

Weighing batches for shredders, cookers and beaters

Weighing and compounding bleachers, tints, etc.

Checking production in roll

Checking uniformity of continuous sheet production

Computing ream weight from single sheet

Mixing coating materials

Bundling scales for cardboard, etc.

Postal Scales

Toledo Scale Company, Toledo, Ohio
Canadian Toledo Scale Co., Limited, Windsor, Ont.
Manufacturers of Automatic Scales for Every Purpose
Offices and Service Stations in 106 Cities in the United States and Canada

TOLEDO SCALES
NO SPRINGS HONEST WEIGHT

New York Trade Jottings

George W. Sisson, president of the Racquette River Paper Company, spent a few days in New York last week.

* * *

Alan Goldsmith, of the Mead Investment Company, of Dayton, Ohio, was a prominent New York visitor last week.

* * *

The Orono Pulp and Paper Company, of Bangor, Me., have opened New York offices at 501 Fifth Avenue, where they will be represented by Alan B. Helffrich.

* * *

The regular weekly luncheon meeting of the New York Division of the Salesmen's Association of the Paper Industry, was held last Monday at the Town Hall Club.

* * *

J. Fred. Booth, managing director of J. R. Booth, Ltd., of Ottawa, Canada, renewed the acquaintance of his many friends in the New York pulp and paper trade last week.

* * *

The News Print Service Bureau is sending out to all its members a comprehensive review of the news print industry, including an account of recent developments, improvements and new processes.

* * *

The United Paperboard Company has omitted the quarterly dividend of 50 cents on common, which was paid on April 15 and July 15 of this year. Dividends on preferred at the rate of 6 per cent have already been declared for the full year.

* * *

According to the "Wall Street Journal," the Westminster Paper Company, of New Westminster, B. C., has purchased from T. W. Horwitt, of New York, the rights to manufacture by a new process paper towels for all British possessions outside of Great Britain. Daily production of 2,000,000 is planned.

* * *

The Trade Association Executives in New York City, of which organization R. S. Kellogg is president, are scheduled to hold their first meeting of the season on Tuesday, September 28, in the offices of Secretary-Treasurer Heminway, Fisk Building, 250 West 57th street, New York. A buffet luncheon will be served at 12:30 prompt.

* * *

The Fifth National Exposition of Power and Mechanical Engineering is to be held at the Grand Central Palace, New York, from Monday, December 6, to Saturday, December 11, inclusive. The exposition performs the service of a great clearing house of latest information about important developments in power and mechanical engineering.

* * *

Decisions just handed down by the Customs Court at New York, concerning the tariff classification of certain hanging paper, not printed, lithographed, dyed, or colored, sustain protests of A. W. Fenton, Inc., and The J. G. Praeger Company, of New York. Judge Fischer, in upholding the importers' claim, fixes duty on the paper in question at 10 per cent ad valorem under paragraph 1309, act of 1922, rather than at 1½c per pound and 20 per cent ad valorem under the same paragraph.

* * *

According to a decision argued in the Customs Court at New York, in the name of F. L. Wasser & Co., certain paper flycatchers assessed for duty by the collector at 5 cents a pound and 20 per cent ad valorem under paragraph 1305, 1922 act, as articles made of surface coated paper, should have been assessed at 35 per cent ad valorem under paragraph 1313 as manufactures of paper not specially provided for. The importer's protest claiming the merchandise dutiable at the 35 per cent rate is therefore sustained by Judge Fischer.

* * *

The New York State Public Service Commission has approved new rates of the West Shore on caustic soda, carload, minimum weight, when in iron drums, 50,000 pounds, and when in barrels, 40,000 pounds, also in tank cars, carload, from Niagara Falls to Newark, of 12.5c, a reduction of 6c per cwt., effective October 6.

* * *

The Board of Directors of the International Paper Company have declared a regular dividend of 1¾ per cent on the cumulative 7 per cent preferred stock of the company, and a regular quarterly dividend of 1½ per cent on the cumulative 6 per cent preferred stock of the company, for the current quarter, payable October 15, to holders of record at the close of business October 1.

* * *

Secretary R. S. Kellogg announces that the fall meeting of the News Print Service Bureau will be held in New York city, October 19-20. On Tuesday, October 19, a meeting of cost accountants and engineers to discuss technical matters will be held at the Canadian Club in the Hotel Belmont, while on the following day a general meeting of executives will take place in the Hotel Commodore.

* * *

Peabody, Houghteling & Co., Inc., and Wood, Gundy & Co., of New York, are making a public offering of a new issue of $5,000,000 Ste. Anne Paper Company, Ltd., first mortgage 6½ per cent sinking fund gold bonds, Series A. The bonds, which are priced at 100 and accrued interest yielding 6.50 per cent, are dated September 1, 1926, and mature September 1, 1946. Half of the issue has been withdrawn for sale in Canada. The issue is redeemable in whole or in part on sixty days' notice at par and accrued interest, plus a premium of 5 per cent if redeemed on or before March 1, 1928, such premium decreasing thereafter one-half of 1 per cent each two years until maturity.

Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Sept. 21, 1926.—The Government Printing Office has received the following bids for 7,100 pounds of 26 x 34 inch, white bond passport paper; American Writing Paper Company, at 36.89 cents per pound; R. P. Andreds Paper Company, at 38.89 cents; Whitaker Paper Company, at 40 cents and 44.23 cents.

The Printing Office will receive bids on September 24 for 10,000 pounds of No. 2 kraft wrapping paper in 36 inch rolls.

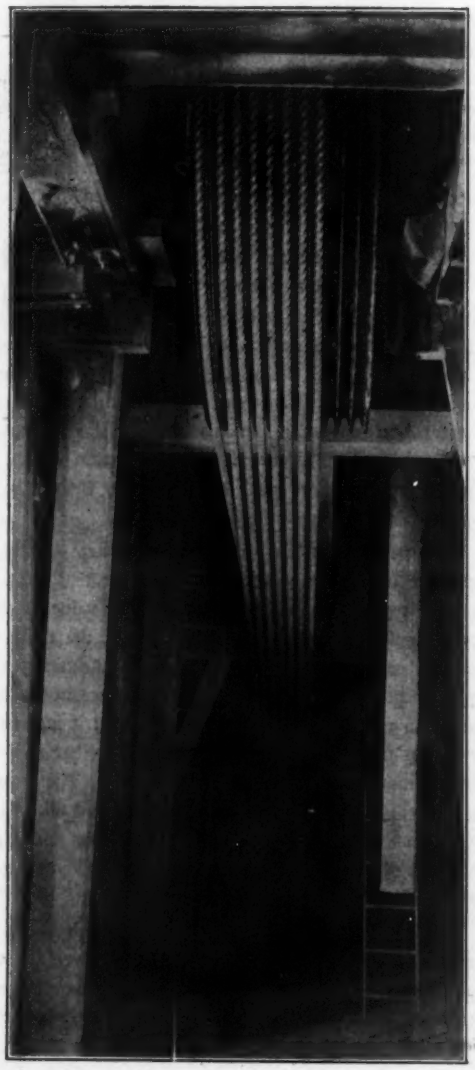
The Allied Paper Mills have been awarded the contract for furnishing the Government Printing Office with 38,450 pounds (250,000 sheets) of various sizes double coated 50 per cent rag book paper at 12.69 cents per pound, bids for which were received on August 27.

The Nashua Gummed & Coated Paper Company will furnish 3,772 sheets of 21 x 32, sensitized paper at 27.5 cents per pound, bids for which were received on August 25.

The McLauren-Jones Company will furnish 3,000 sheets (600 pounds) of 26 x 43 inch sensitized paper at $33.50 per ream, bids for which were received on August 20.

The R. P. Andrews Paper Company will furnish 650 pounds of 17 x 22 blue gummed paper at $8.10 per ream, bids for which were received on August 11. Bids will be received at the Printing Office on September 24 for 40,350 pounds (150,000 sheets) of 38 x 48 single coated book paper.

Provision for Increase of Power



A decided advantage of a Rope Drive is that future requirements may be anticipated. When a Rope Transmission system is installed, provision can be made for future increase of power by having a few extra grooves on driving sheave. By this method, complete replacement of expensive gears, pulleys, etc., is not necessary as would be with other systems.

Columbian Transmission Rope

will give the maximum service on a Rope Drive. When you renew your Rope, specify Columbian. The Columbian book of Rope Transmission is full of interesting material for anyone interested in Rope Drives. We will gladly send you a copy.

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The Magazine of the Paper Industry
HENRY J. BERGER, Editor

Member A. B. C. Audit Bureau of Circulations

Vol. LXXXIII New York, September 23, 1926 No. 13

THE SWEDISH PULP MARKET

The Swedish pulp and paper markets are undergoing the usual seasonal dullness, which is even more pronounced this year owing to the fact that practically all of the present year's output has been sold, says Consul General Dawson at Stockholm. Sales of sulphite pulp during June are reported to have reached about 20,000 tons, of which 4,000 tons were for delivery in 1927. The United States is now the most important customer, purchases by Great Britain having been considerably reduced lately, owing to the standstill at a number of British mills following the coal strike. There has also been a marked decrease in the volume of sales to France, Belgium, and Italy on account of the depreciation of their respective currencies. Prices show practically no change, except for a slight weakening in strong sulphate or kraft pulp. Sales of mechanical ground wood have been more satisfactory in volume, about 25,000 tons of wet and 2,300 tons of dry pulp having been disposed of in June for delivery this year. Most of the wet pulp was taken by Great Britain and France.

Similar conditions prevail in the paper market. The year's output of news print paper has been practically disposed of, and prices have remained stable since the early months of the year. Production during the first half of the current year reached approximately 95,000 tons, and according to official statistics shipments totaled 84,000 tons. Swedish wrapping paper manufacturers so far report that the recent duty imposed on wrapping paper by the British government has not affected their sales to that country. Prices have shown no change since the beginning of 1926.

Exports of wood pulp during the first six months of the current year were slightly above those during the corresponding period in 1925, shipments comprising 305,829 metric tons, a metric ton equalling 2,205 pounds of sulphite pulp, 125,417 tons of sulphate pulp, and 73,521 tons of ground wood. Exports during the same period last year comprised 288,457 tons of sulphite pulp, 99,898 tons of sulphate pulp, and 65,222 tons of ground wood.

The monthly statistics published by the Swedish government do not indicate the country of destination of shipments made to foreign countries. Unofficial statistics indicate, however, that during the first five months of 1926, 140,848 tons of wood pulp were shipped to the United States, of which 69,438 tons represented sulphite pulp and 60,649 tons represented sulphate pulp. Shipments to Great Britain ranked next in importance totaling 96,202 tons. Other leading customers were France and Norway, each of which took approximately 45,600 tons, followed by Belgium and Italy, with purchases amounting to around 15,000 tons. All of these countries, with the exception of Great Britain and Norway, have substantially increased their receipts of Swedish pulp over last year. Exports to Great Britain are practically on a level with those during 1925, while exports to Norway decreased 20 per cent. The heaviest decreases occurred, however, in exports to Germany and Japan, shipments to the former country having fallen from 19,546 tons during the first five months of 1925 to 2,747 tons during the corresponding period this year, while shipments to the latter country show a decrease from 8,514 tons to 2,471 tons.

The unofficial figures of exports by countries include the actual weight of the wet pulp shipped, not reduced to dry weight.

WOOD UTILIZATION HERE AND IN EUROPE

Americans can not expect to find in Europe readymade answers to their wood utilization problems, according to G. M. Hunt, chief of the wood preservation section of the Forest Products Laboratory, United States Department of Agriculture, who has just returned from a five months' investigation of Eureopean wood preservation methods. In his opinion the methods by which Europeans utilize "everything but the rustle of the leaves" are applicable only where labor is far cheaper than it is through any considerable section of the United States.

In Germany men and women spend hours picking up chips or branches or pulling stumps out of the ground for fuel. In the wooded regions of the United States the value of the time thus spent would be several times the value of the fuel. In the sawmills of central and western Europe the machinery works slowly but accurately and with a minimum of waste in the form of sawdust. As a rule, the lumber is not edged or trimmed and the boards and slabs from each log are piled back together in the same relative positions they occupied before sawing. The purchaser comes to the mill and buys the entire log, slabs and all. This saves the mill man the trouble of finding uses for slabs and edgings but he must use an excessive amount of labor and yard space to keep his logs together in this way.

In Belgium one may see trees from which the branches have been trimmed to considerable heights and even the tops cut out, for fuel. These trees furnish crops of fuel as other trees furnish crops of fruit. Such practices, because of labor cost, can not find application in the United States.

While it may be very comforting to us to reflect that other nations are as wasteful of labor as we are of wood, the recognition of the fact does not excuse our waste of wood. It merely defines more clearly the nature of the improvements which we must make. Our problem is to learn how to save wood without wasting labor. Increasing costs of timber and lumber and freight will force us to be more saving as time goes on. But we must search out and develop opportunities to save wood and money and not wait to have them forced upon us, if we are to avoid becoming dependent upon imports for a large proportion of our wood requirements.

The Scandinavian countries offer a much better field for Amer-

ican manufacturers to search for useful utilization ideas than the rest of Europe. In these countries there is interest in labor saving machinery and methods as well as in saving wood. The grouping of industries using wood also make close utilization practicable. In one group of plants in Sweden a veneer and plywood factory, sawmill, pulpmill, and charcoal burning plant were drawing supplies from the same body of timber and from each other and using up the wood so completely that there was little left to waste either in the woods or at the mills. This idea is not new to the United States, where we have several excellent examples of it, but its development and extension will be very advantageous.

In the extent to which preservatives are applied to poles, railway ties, and mine timbers, Europe is ahead of us. Excellent progress has also been made, especially in Germany, in developing improvements in preservative materials. In the technique of injecting preservatives into wood, however, Europe is not in the lead. The great diversity of woods which must be treated in the United States (several times as many species as Europe uses) has forced our industry to develop methods and equipment which Europe has not yet seen the need of. The organization of our wood preserving industry into an association for the discussion of its technical problems has brought about progress and produced a healthy state of mind in the industry which informed European wood preservers view with envy. The Statistics on the amount of preservatives consumed and the amount of wood treated in the United States, which are collected each year by the Forest Service of the Department of Agriculture and published by the American Wood Preservers' Association have no parallel in statistics collected in Europe.

Our wood industries are exceedingly fortunate in having such an enormous domestic consuming field unobstructed by customs barriers or differences in language, money, and usages. They have a wonderful opportunity to apply quantity production methods to the wood-saving problem, and the rapidly increasing interest and activity which is noticeable in this field promises well for the future.

Experiments With Paper for Money

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 21, 1926.—A good many misleading stories have appeared in the daily newspapers throughout the country in the last few weeks in connection with changes reported to have been made in the distinctive paper used in paper money.

The Bureau of Standards, the Bureau of Engraving and Printing and Crane & Co., the government contractors for this paper, have been carrying on experiments for a number of years with the idea of improving the durability of this paper. These experiments have met with considerable success but they are still in progress.

The paper which is now being furnished under this year's contract is understood to be slightly different from that used before inasmuch as the specifications this year called for greater strength than heretofore.

It is said that some of the experiments have shown that if the pulp was not beat quite so hard it would add to the durability of the paper and this is now being tried. New coating experiments are also under way at the present time. No "panacea," however, has yet been reached in this situation as would seem to be indicated by some of the press stories which have recently been printed in various parts of the country.

Numerous Cities Want Brotherhood Meeting

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., September 20, 1926.—A number of cities are bidding for the coming convention of the International Brotherhood of Papermakers to be held next March, according to announcement made at union headquarters in this city. In addition to Watertown, which was the first to invite the convention, Buffalo, Detroit and a number of other cities have written to W. R. Smith, president of the Brotherhood, stating that they would gladly welcome the convention. A definite decision, however, on the place of meeting will not be made until next January when the executive board meets.

Another interesting announcement made at union headquarters was to the effect that two more local unions in Canada will be given charters in the near future. Arthur Huggins, vice president of the Brotherhood, is in charge of the organization work in Canada with headquarters at Three Rivers, Quebec, and will probably remain there for some time to come as there is still much to be done in that territory in the way of organization work.

Frank P. Barry, first vice president, who has been in charge of organization work in Northern New York during the summer and whose activities resulted in the formation of two new locals in Carthage and vicinity, has been transferred to Holyoke, Mass., where he will be stationed for at least three months and perhaps longer. While the International Brotherhood of Papermakers originated in Holyoke and that city for years was one of the union's strongholds it is said that in recent years the membership of the Holyoke locals has dwindled to an alarming extent. The decision to conduct an organization drive in the Massachusetts city was made following a recent visit of President Smith to Holyoke.

It was learned here this week that Matthew H. Parker, former president of the Brotherhood, who was defeated for reelection by the present incumbent, W. R. Smith, in a spirited contest last fall, is in very poor health and since leaving Albany for Richmond, Va., where he is now located, his condition has been such that he has been unable to do any work.

Pulpwood Cutters Demand Higher Rates

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ontario, September 20, 1926.—The threatened strike of bush workers professing to belong to the Lumber Workers' Industrial Union at Port Arthur, Ont., is being strongly combated by the pulpwood operators at the head of the lakes, headed by Thomas Falls, Port Arthur. The workers in that district are demanding increased rates as follows: "Five dollars for a cord of eight-foot pulpwood and three dollars for four-foot lengths. The monthly wages asked for day laborers are $60 and board."

Speaking for the operators at Port Arthur, Thomas Falls commented on the demands of the workers as follows:—"It is out of the question to grant the rates demanded by the men. As far as I am concerned, and I believe it is the same as the majority of operators, I will not make any contracts until this matter has been cleaned up."

Hammermill Paper Co. To Build Laboratory

[FROM OUR REGULAR CORRESPONDENT]

ERIE, Pa., September 20, 1926.—The Hammermill Paper Company added nearly $80,000 to the building operations of the year when it was granted a permit on Friday morning by City Building Inspector Eugene McManus covering its proposed new laboratories building at its East Lakes road plant.

The new structure is to be 43 by 88 feet in dimensions, three stories in height, will be built of brick and steel and is estimated to cost a total of $78,512.

The Henry Shenk Company of this city is named as the contracting firm.

Uncle Jake says

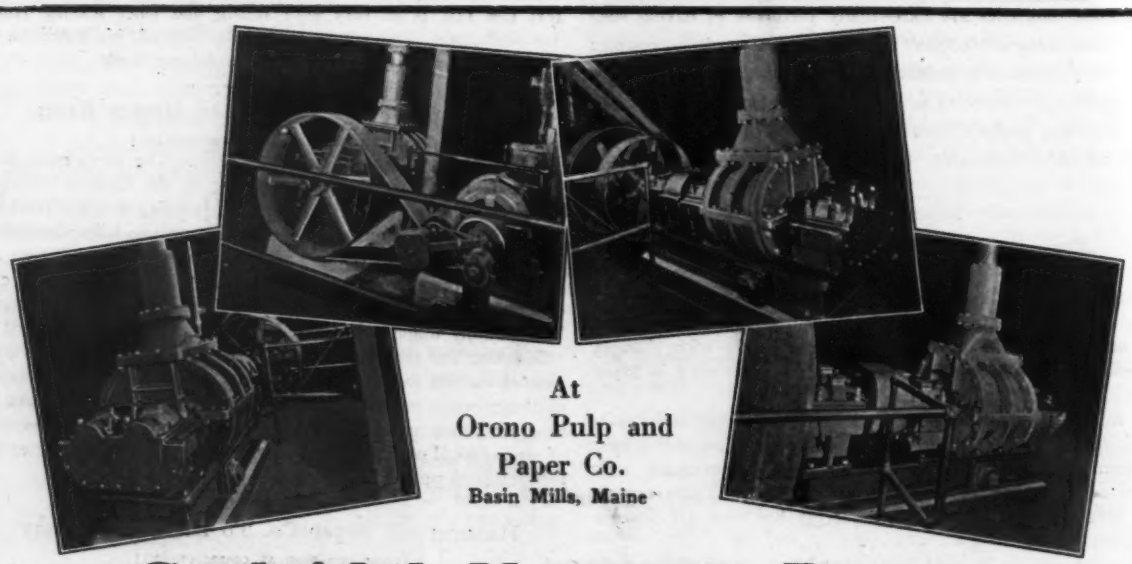
I have no time to quarrel with the mistakes of my past; there is a long road ahead of me.

I have learned from observation that the average man is as old as his worries and so I say, don't worry because of what you have lost by not using

K. V. P. Bond Paper

(for all printing, writing and typewriter uses) but see to it that from now on you will be served by nothing but the best in paper, viz. K.V.P. Bond.

Uncle Jake
of the
KALAMAZOO VEGETABLE PARCHMENT CO.
KALAMAZOO, MICHIGAN



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Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G.MacNAUGHTON, Secretary

Artificial Wool Manufacture

Production of new fiber by Snia Viscosa may foreshadow another rapid development in textile industry

By Dr. Hans Drexler

Lately much interest has been shown in the character and the future prospects of the new textile fiber which has been named "artificial wool." This material is quite different from that of the same name manufactured in Germany from damaged wool or shoddy. In appearance and texture it closely resembles natural wool; but it is a synthetic product manufactured in a way very similar to that used in making rayon.

In the manufacture of artificial wool, the Italian firm Snia Viscosa, at Venaria Reale, near Turin, appears to have taken a leading part. In October, 1925, this concern made known that it would shortly bring on to the market its new artificial wool product, "Sniafil." At the general meeting of this concern held on February 20, 1926, it was stated that the October announcement had been received with a good deal of scepticism, but that the production of Snaifil was now a fact. Also that the new fiber could be spun to produce a length of 66,000 meters per kilo and that its use would be as an admixture with other textile fibers.

It was also stated that the new product was easy to dye. At the same time it appeared from the statements at that meeting that production had not been completely perfected, and the report referred to the introduction of new machines by which it was expected to make a great improvement in the manufacture of the fiber.

With regard to the manufacturing method used by this concern, it has been reported to be based on a French discovery which has been patented in Germany. It is well known that before the Snia Viscosa took up the idea of manufacturing artificial wool several chemists had been engaged on research in this sphere, but as to the results of this work, very little has been made public. But on this point some information has been published recently by Bigatuso Mauro, the head of the Italian official department for the examination of material.

Schwartzer's Nitric Acid Process

According to Signor Mauro, a chemist named Schwartzer was first in the field, followed later by another chemist named Villedieu. The latter, however, chemically treated already known fiber to convert it into a product resembling natural wool.

Schwartzer's method is to treat cotton with concentrated nitric acid. A low temperature must be maintained, which makes the treatment period rather long, but the product has a fine gloss and is soft as natural wool. It is also possible to increase its resemblance to natural wool by giving it a crimped effect, which is characteristic of the natural wools. This product is stated to be about three time as strong as natural wool and to take dyes more readily. It is claimed further that the heat conductivity of the synthetic product is even less than that of natural wool, a statement, however, which other evidence seems to discount. Mauro thinks that the low heat conductivity may be due to the fact that the nitric acid removes and throws out all waxy and starchy matters that occur naturally in cotton.

A Basle concern is stated to have taken up the Schwartzer process and to be already producing the synthetic material; and another concern has been formed in Paris for the same purpose. A possible drawback to the Schwartzer method is the use of the somewhat expensive reagent, nitric acid. This will involve the recovery of the acid from the spent liquors, which will call for a large capital expenditure.

Villedieu treats jute insteal of cotton. The jute is acted upon by caustic soda to which sodium peroxide and oil are added. From this treatment the jute fibers acquire a glossy appearance and the softness of natural wool; they can also be given the crimped effect similar to that of the natural wool fiber.

The fiber is combed and spun, yielding a product of the general appearance and texture of genuine wool from which it is distinguishable only by experienced persons. The Villedieu process, however, is not at present being worked industrially. According to Mauro, its introduction into the industrial field was checked by the appearance of the Sniafil process, which is superior.

Snia Viscosa Probably Uses Xanthogenate Process

The process of the Snia Viscosa is naturally kept secret for the present. Signor Mauro assumes, however, that the patent is based on reseaches made by Beltzer first mentioned in 1906, but in regard to which no patent was obtained. According to this method, cellulose, preferably derived from the wood of poplar trees, when first subjected to a soda treatment and then to a treatment with carbon disulphide, yields xanthogenate. The subsequent stages of the manufacture are the same as those in the manufacture of rayon; that is, the xanthogenate is mixed with a suitable quantity of water and extruded under pressure through

small holes. The resulting fiber is very fine and soft, of a glossy appearance, and a crimped form. It is less elastic than natural wool fiber but considerably stronger. After a washing in a dilute alkali bath, the fiber is marketed, either in the crude or the combed condition, at prices which are naturally far below those for natural wool of equal fineness. Although in appearance and texture the artificial wool is so nearly like natural wool as to deceive the inexperienced examiner, chemical and miscroscopic methods of examination readily show great differences. The most simple of all tests is to burn a strand; natural wool in burning gives out the characteristic odor of burning hair and leaves a carbonized residue, whereas the artificial product burns like paper. Another difference between the two materials is the property of "felting." A microscopic examination of a natural wool will show the fiber to be covered by an overlapping system of tiny scales arranged like slates or tiles on a roof. By friction, pressing, or "fulling," an interlacement one with the other of the fibers occurs, but with the even surface of the manufactured fiber no such matting or felting is possible.

With regard to the relative heat conductivities of the natural and artificial wools, it is a well-known fact that natural wool is an excellent insulator. This property gives to wool clothing its capacity for preventing a rapid escape of the body temperature and also to minimize the entrance of cold through the clothing to the body. This is true to a much smaller degree with artificial wool whatever claims may have been made to the contrary.

It is not difficult to see that the new product will become established commercially much more quickly than was rayon, which was first producted about 40 years ago. This opinion was expressed at the recent general meeting of Snia Viscosa, at which it was also suggested that foreign countries, England in particular, might seek to check its importation by means of a protective tariff.

One of the first undertakings to take up the manufacture of the new product is the British branch of Snia Viscosa, but according to press notices, this is not to be the only English artificial wool factory. A company known as "Silvandor, Ltd." is reported to have built a factory at Kendal in Westmoreland, and to have already commenced production. As this company has been formed entirely by British Capital, it is improbable that it is using the same process as Snia Viscosa. It has been reported also that the Vistra-Faser A.G., a German concern with a capital of 20,000,000 marks, has been formed to manufacture artificial wool. Certain German circles have long been occupied with the problem of producing an artificial wool, and at the last Leipzig Fair, a Ludwigshaven firm exhibited a fiber named "Loda" which was stated to be an artificial wool.

In some quarters the new product and its possibilities have been adversely criticised. The Australian Institute for Scientific and Industrial Research is among those not favorably impressed. Australia is a great sheep-breeding country and is, therefore, likely to suffer injury by the production of a substance that can replace natural wool at a comparatively low cost. The British wool industry appears to regard the discovery of artificial wool without apprehension. W. Priestley, a prominent man in the wool industry, recently stated at Bradford that the term "wool" was a misnomer, as the product is much more akin to rayon than to natural wool. He emphasized also, that no one could make a product like natural wool in a synthetic way.

Whether he is right or wrong in this view will soon be known. Similar scepticism prevailed for about 20 years regarding the possibilities of producing rayon. As a matter of fact, the new product may produce quite a revolution in the textile industry.

Consumption of rayon it is said is now about 85,000,000 kilos against 40,000,000 kilos of natural silk. The production of natural wool is about 300,000,000 kilos annually, and of cotton about 5,800,000,000 kilos.

Campbell Boiler Feed Regulator

The problem of regulating boiler feed without a float, generator, link, or thermostat, has at last been solved in a surprisingly simple way.

It is so simple that any engineer can install the regulator with guaranteed assurance of positive feed water regulation to any desired water level.

This regulator, the Campbell, is shown at the top of the water column, in the accompanying illustration. It has no moving parts. It is a simple hollow casting with an inlet, an outlet, and a pressure port.

For example, to show how simple it is, if the water level in the boiler is to be maintained at the middle gauge cock, the lower end of the supply pipe extending down into the water column is made to terminate at that point. In other words, the water in the boiler will not go higher or lower than the position of the open end of the pipe.

How It Works

Let us assume that the water in the water column is slightly below the lower or open end of the supply pipe. Steam is then passing into the regulator through a very small orifice. The orifice is so small that the pressure of the steam drops as it passes into the body of the regulator. It drops to about 10 per cent of the boiler pressure. This steam then passes out of the regulator body through a second orifice which is slightly larger than the inlet orifice. These orifices are so proportioned that the pressure in the regulator is maintained at about 10 per cent of the boiler pressure, as already stated. This reduced pressure acts on the diaphragm of the control valve shown at the right in the illustration through the connecting pipe. But 10 per cent of the boiler pressure is not sufficient to close the control valve, consequently that valve remains open and water continues to be fed into the boiler. Therefore so long as the water in the boiler is below the entrance to the supply pipe water is fed into the boiler.

Now, as soon as the water reaches the inlet of the supply pipe hot water, instead of steam, flows into the regulator through the orifice.

Immediately some of that water flashes into steam and a pressure within the regulator equal to nearly 60 per cent of the boiler pressure is created. When this high pressure acts on the diaphragm of the control valve the valve closes tight and water ceases to be fed into the boiler.

As soon as the water level drops below the opening to the supply pipe, pure steam once more flows into the regulator, the pressure drops, the control valve opens, and water is fed into the boiler. The rise and fall of pressure within the regulator is as certain as is the law of physics on which it is founded.

By using any well known formula for steam flow through orifices, such as Napier's and any well known hydraulic formulas for flow of water through orifices, it is a simple matter to check up and prove that more heat passes through an orifice in a given time in the form of hot water at steam temperature than in the form of steam at the same temperature.

That, briefly, is the simple and unfailing principle upon which this remarkable device is based.

Numerous Advantages

To be sure a simple and reliable regulator such as this has numerous advantages. It is small and compact, yet powerful enough to operate the largest high pressure feed water control valves. Its power is more than twice that required to operate the control valve making it adaptable to extra high as well as low pressure

boilers. Its ease of installation has pleased all engineers to whose attention it has been brought. Whether or not the water column is equipped with high or low water alarm mechanism it makes no difference to this regulator. Any engineer or mechanic can attach it to any water column through the top, at the side, through the try cock connections, or it can be tapped into the column or boiler at the desired water level. The control valve will operate in any position, at any height above or below the water level, and at any distance remote from the boiler. It requires nothing more than standard pipe and fittings for complete installation. No expensive alterations are required to the existing plant. It cannot become air bound because the air will pass through the regulator with the steam and will behave in the same manner as steam. The flow of steam or water through the regulator is negligible in quantity, and when it is returned to the boiler through the heater or receiver, the thermal efficiency of the regulator is 100 per cent, as no heat is lost. The Campbell regulator is applicable to all sizes and types of boilers—water tube, fire tube, horizontal, and vertical. After installation it does not require any adjusting because there is nothing that can get out of order.

An important advantage is the fact that the feed water control valve can be installed in the feed water line any place. A wide range of control valves is offered by the manufacturer to suit any condition—globe or angle, standard or extra heavy pattern, bronze, cast iron, or cast steel.

A common trouble with regulators is the leakage that occurs through the control valve when the load is light or when there is no load at all. With this regulator the boiler cannot be flooded because the single seated control valve with renewable disc shuts off absolutely tight when the water level is high. It therefore regulates perfectly from no load to full load.

Any Type of Governor May Be Used

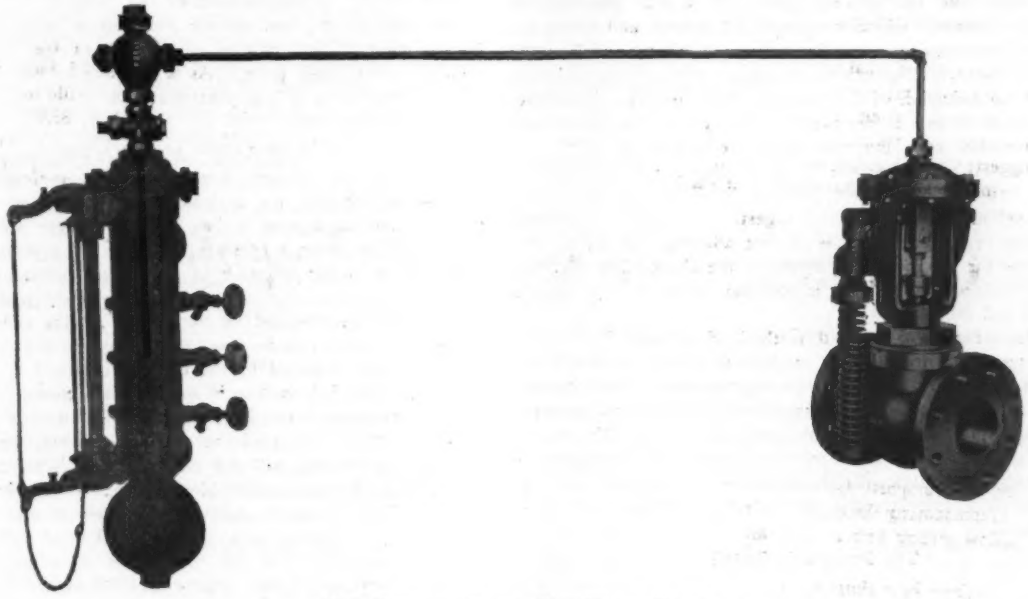
Any type of pump governor may be used with this regulator—either the constant pressure or excess pressure type. Where one feed pump serves one boiler no pump governor is required, as the control valve, installed in the steam supply to the pump, governs the speed of the pump in accordance with the water demanded by the boiler.

Tests on the Campbell regulator were made at the Stevens Institute of Technology during 1925. The following is a portion of the report dated June 11, 1925, by Prof. Robert M. Anderson, M. E., Professor of Mechanical Engineering:

"Your boiler feed control device installed in the feed line to the Smith boiler in the Carnegie Laboratory of Engineering has been continuously under our observation during thirty days, and has proven entirely satisfactory in its operation. The maximum fluctuation in the level of the water in the boiler has been approximately one inch."

"The change in the attitude of our boiler room crew towards the apparatus gives unsolicited testimony in its favor. At first it was just one more appliance to fuss with, but now all hands are anxious to know if it is to remain permanently."

The manufacturers suggest that when writing or ordering it is best to state size and type of boiler; number of boilers and working pressure; give size of feed water valve; feed water pressure and mention whether the pump is automatically controlled or hand controlled.



THE CAMPBELL BOILER FEED WATER REGULATOR

The Atlas Valve Co., 282-286 South Street, Newark, N. J., manufacturers of the Campbell regulator, has been manufacturing regulating devices for over 25 years.

Cleaning Stock for Fine Rag Paper

SPECIAL INQUIRY No. 53

Through the Service to Members Plan of TAPPI, a member makes the following inquiries on which he would appreciate information as to the general practice:

1. For a machine making 1,000 pounds per hour, of high grade bond and ledger papers, what type of sand trap has been found most practical? Add sketch showing plan, with dimensions, arrangement of baffles, pitch, etc.
2. What methods are in use for the disposal of the dirt and fiber with the spray water used in flushing inward-flow rotary screens such as the Leith-Walk, Wandel, etc.
3. (a) What type of electro-magnetic separator for iron removal is used and recommended?
   (b) The maker?
   (c) What is the proper location?
   (d) How effective is it in eliminating iron specks?

A transcript of the replies to this inquiry will be sent to all who participate in the discussion and supply information.

Send replies to

W. G. MACNAUGHTON,
Secretary, TAPPI, 18 East 41st Street, New York.

A Semi-Chemical Pulping Process*

By John D. Rue[1], Sidney D. Wells[2], Frances G. Rawling[3] and Joseph A. Staid[4]

During the last five years, the Forest Products Laboratory has made a careful study of the chemistry of the processes used for pulping wood and of the hydrolytic reactions incident to the decomposition of wood[5]. Out of the study there has been developed a semi-chemical process by which the wood fibers are isolated in yields in excess of 70 per cent and in quality suitable for certain grades of board on the one hand, and for low and medium grades of print papers on the other.

The process consists essentially in: 1) a pressure impregnation of the chips with the cooking liquor; 2) a mild digestion of chips with chemicals which are practically neutral and which are capable of maintaining neutrality during the liberation from the wood of considerable quantities of organic acids, followed by 3) a mechanical réduction of the softened chips to pulp. Neutrality of cooking chemicals is desirable in that it prevents too drastic hydrolytic attack upon the wood constituents and yet admits of sufficient action to weaken the forces binding the fibers together. Pressure impregnation insures uniform distribution of the chemicals throughout the wood prior to digestion. Digestion is effected at temperatures and for periods of time adequate for the softening but not for the complete pulping of the chips. The softened chips are reduced to pulp by mechanical means, as by passage through a rod mill.

The idea of a semi-chemical method of pulping—i.e. a mild chemical treatment followed by mechanical disintegration—is not new. The literature abounds with suggestions of this character[6], but, except as applied in the manufacture of steamed groundwood, none has come to important practical fruition. The reason probably lies in the failure hitherto to combine in one process the elements essential to the manufacture of a product of low cost, high yield, fair strength, and a reasonable approach to a white color.

The Process in Detail

Chemicals

In the Forest Products Laboratory process, sodium sulphite forms a natural nucleus for the group of chemicals selected by reason of its ready solubility, its neutrality, its reducing properties, and the solubility of such compounds as are formed by its outsulphite to maintain approximate neutrality of the reaction throughout the digestion. The organic acids are neutralized with the liberation of carbon dioxide, which can be withdrawn as the digestion proceeds.

The proportion of the reagents to each other and to the wood is determined by the species and condition of the wood and by the quality of the product desired. The total quantity of chemicals need not exceed 15 pounds for each 100 pounds of wood. The quantity of bicarbonate must be sufficient at least to neutralize the organic acids produced. The bicarbonate may be replaced or supplemented by sodium carbonate or even by sodium hydroxide, provided the darker color of the pulp is not objectionable and provided also that modified properties of the product are desirable.

The cooking liquor may be prepared by absorbing sulphur dioxide in a solution of soda ash. The carbon dioxide liberated will be sufficient to convert the desired proportion of soda ash to bicarbonate.

The semi-chemical process is not necessarily limited to the particular chemicals enumerated above. Further research will doubtless reveal other reagents and combinations of them which will effect the necessary softening preliminary to mechanical disintegration with equal or greater satisfaction. Studies with this end in view will be undertaken by the Forest Products Laboratory as rapidly as time and facilities permit.

Preparation of the Wood

For pulp of the best quality and highest color the wood is barked, cleaned, and chipped as for the sulphite process. For pulp of lower grade such as is to be used in boards the wood may be chipped in a "hog" and, for some purposes, even without removal of the bark.

Impregnation of the Chips

The chips are charged into a digester—preferably a globe rotary—and steamed for at least one-half hour at atmospheric pressure, and the digester is then filled with liquor which is forced into the chips under a pressure of about 100 pounds per square inch. By a proper selection of the concentration of the liquor and the temperature of impregnation the requisite quantity of each chemical will be absorbed by the chips. At the end of the impregnation period, which may require approximately one hour, the liquor not absorbed by the chips is returned to the storage tank to be fortified for use in a subsequent cook.

It is preferable to complete the impregnation at a temperature of 120 to 125°C. Most of the organic acids may be set free at temperatures between 110 and 120°C., and it is advantageous to induce their liberation while the digester is completely filled with solution. This procedure removes the danger of free acid vapors corroding the digester walls. Impregnation at 120 to 125°C. should be continued until the removal of the organic acids has been completed, which may require 1 to 1½ hours.

Digestion of the Chips

After the return of the excess impregnating liquor, the digester contents are brought quickly to a temperature between 140° and 160° C. and held there for a period varying from 1 to 6 hours. The higher the temperature and the longer it is maintained the more thoroughly will the chips be softened and the lower will be the yield. The character of the product will also be determined in some degree by these factors.

Rotation of the digester or else circulation of the liquor through an external pump is essential to uniform digestion.

The digested chips are dumped, and after being washed are ready to be fed to the rod mill.

Reducing the Softened Chips to Pulp

The softened chips, which represent from 70 to 85 per cent by weight of the wood, still retain a large part of their mechanical rigidity. The forces binding the fibers together have, however, been sufficiently weakened to permit the fibers to be rubbed or pounded apart without excessive injury to their structure. The separation of the fibers is advantageously accomplished by passing the softened chips through a rod mill such as is used in the mining industry. The operation is continuous. A detailed discussion of the application of this apparatus to pulp and paper operations is given in another paper[7]. Sufficient water is fed with the chips to form a pulp suspension of between 4 and 8 per cent. The pulp as it leaves the rod mill is not unlike a chemical pulp and can be washed, screened, and handled accordingly. The screenings are reground with subsequent charges of chips.

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* Presented at the Fall convention of the Technical Association of the Pulp and Paper Industry, Sept. 14-16, 1926, at York, Pa.

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[3] Formerly Chemist in Forest Products, U. S. Forest Products Laboratory, Madison, Wis.

[4] Assistant Engineer in Forest Products, U. S. Forest Products Laboratory, Madison, Wis.

[5] Rue, J. D., Studies in the Hydrolysis of Wood for Pulp. Presented at the Regional Meeting of the American Chemical Society, Madison, Wis., May 28-29, 1926.

[6] See Rue, J. D., Semi-Cellulose and Semi-Chemical Pulping; A Review of Publications Relating to the Subject. PAPER TRADE JOURNAL, Oct. 15, 1925.

[7] Rue, J. D., and Wells, S. D., The Rod Mill in the Pulp and Paper Industry. Presented at the Meeting of the Technical Association of the Pulp and Paper Industry, York, Pa., Sept. 14-16, 1926. Paper Trade, Sept. 16, 1926.

Application of the Process to the Manufacture of Low and Medium Grade Print Papers

For the manufacture of white papers by the semi-chemical process, the wood must be light in color and relatively free from knots and other defects, and must be thoroughly barked and cleaned.

The coniferous species yield readily to the treatment, but the pulp does not possess strength and flexibility commensurate with the length of the fibers. It is believed that no economic or technical advantage would result from the use of semi-chemical coniferous pulps in the manufacture of print papers.

Semi-chemical pulps from deciduous woods, however, possess strength and flexibility far in excess of the pulps prepared from the same woods by the soda process. Paper of the weight and caliper of news print made wholly from semi-chemical pulp of black, tupelo, or red gum, or aspen, birch or maple, possesses greater strength than the present commercial news print. In the case of the gums, provided black and red heartwood have been excluded, the color of the paper can be made by the use of dyes to equal or excel that of standard news print. With the addition of clay a very excellent catalog paper can be produced.

Semi-chemical pulp from aspen and birch, and possibly maple, can be substituted to the extent of over 50 per cent in the standard news print furnish of groundwood and sulphite without sacrifice of quality. In fact, combinations of groundwood and semi-chemical pulp can be used without sulphite. The sheet which contains no sulphite possesses ample strength when dry, but when wet it is rather weak and requires special care in handling on the wet end of a paper machine.

Laboratory Tests

In the semi-commercial tests made at the Forest Products Laboratory wood was cooked in either 100-pound or 500-pound digesters and the softened chips ground in a rod mill 3 feet in diameter and 5 feet long, inside measure. The data for several typical cooking and paper strength tests made with three species of gum and with aspen, birch, and maple appear in Table 1.

Commercial Demonstration

Fifteen cords of black gum were chipped and shipped to a commercial plant specially equipped to carry on the semi-chemical process. The wood was cooked in a 14-foot globe rotary, and the softened chips were ground in a rod mill 6 feet in diameter by 12 feet in length.

In a typical cook 14.2 pounds of sodium sulphite and 2.4 pounds of sodium bicarbonate (calculated as sodium carbonate) were used for each 100 pounds of wood. The chips after impregnation were cooked for four hours at a temperature ranging between 155° and 160°C. The chips were milled at the rate of 9.3 tons per 24 hours with a power consumption of 90 horsepower, or at the rate of 9.7 horsepower-days per ton. The pulp was partially dried on a board machine, and the rolls were shipped to a paper mill. The yield was approximately 75 per cent, oven-dry.

At the paper mill, portions of the pulp were beaten and without the addition of other fiber were made into paper on a "yankee" machine at the rate of 90 feet per minute. The strength of the sheet is indicated by the following data for sheet No 5A:

Weight per ream, 24 x 36 x 500	48.1	lbs.
Caliper	0.0042	in.
Mullen test	24.5	
Points per pound per ream	0.51	
Breaking length	4510	meters
Stretch	1.14%	
Tear	40.0	grams
Double folds	18	

Estimated Cost of one Ton of Pulp

The cost can be estimated with accuracy only for a given locality and with due regard to local unit costs. It is believed, however, that the values arbitrarily selected for illustration here are not far from the average and that the total cost is representative.

The following estimate is based upon a plant capacity of 100 tons daily production:

Wood—0.954 cords of gum, birch, or maple, peeled, at $10 per cord. It is estimated that 1 cord = 3,000 pounds oven-dry wood = 2,100 pounds oven-dry pulp, the oven-dry yield being taken as 70 per cent.	$ 9.54
Soda ash—358 pounds at $1.50 per 100 pounds	5.37
Sulphur—72 pounds at $1.00 per 100 pounds (Chemical consumption based upon use of maximum quantities, viz, 4 pounds sodium bicarbonate, calculated as carbonate, and 10 pounds sodium sulphite.)	.72
Power—Rod mill, 12 horsepower-days; chipping and miscellaneous 3 horsepower-days; total, 15 horsepower-days at 24c	3.60
Steam—2000 pounds at 50c per 1000 pounds	1.00
Labor—0.4 man-day per ton, at $4.00 per man-day	1.60
Maintenance	1.00
Overhead—15.7 per cent (basis, $8,000 per ton daily capacity or $26.67 per ton annual capacity)	4.19
Total cost of one ton slush pulp	$27.02

TABLE 1.—COOKING DATA FOR HARDWOOD PULPS DESIGNED FOR PRINT PAPERS, AND STRENGTH OF PAPERS MADE

	Cooking Data								Strength of Machine Made Paper				
		Chemical used per 100 lb. oven-dry wood											
Cook No.	Max. temp. of impregnation	Na_2SO_3	$NaHCO_3$, calculated as Na_2CO_3	Max. cooking temp.	Time to max. temp. after impregnation	Time at max. temp.	Digester gage pressure	Yield oven-dry basis	Weight per ream 24x36—500	Bursting strength (Mullen)	Strength factor(a)	Folding endurance	Weight per ream divided by ten thousandths of an inch thickness
	°C.	lb.	lb.	°C.	hr.	hr.	lb. per sq. in.	%	lb.	pts.		No. double folds	
Aspen—													
2175	129	9.8	4.9	140	0.4	2.0	50 to 60	83(b)	38.0	21.7	0.57	104	1.00
2176	127	11.3	4.7	160	0.6	2.0	82 to 107	74	51.0	30.4	0.60	305	1.28
2182	125	15.1	5.8	156	0.3	3.0	75	...	37.0(c)	21.0(c)	0.57(c)	38(c)	1.12(c)
Black Gum—													
2055	<100	6.5	..	160	2.0	2.0	..	70(d)	...	...	...	...	...
2057	<100	8.0	1.6 $NaHSO_3$	160	2.0	0.0	..	86	...	...	...	...	...
2082	<100	10.4	2.3	160	2.1	2.0	81 to 96	79	40.5(e)	11.3(e)	0.28(e)	4(e)	1.27(e)
2181-N	128	9.0	3.6	160	0.3	3.0	70 to 90	..	45.5	17.8	0.39	15	.84
White Birch—													
2177-N	125	7.3	3.2	140	0.5	2.0	51 to 60	80	51.0	47.5	0.93	115	1.13
2178	125	8.1	4.9	160	0.6	2.0	85 to 98	81	43.5	38.2	0.88	253	1.21
2183-N	126	6.1	4.0	158	0.3	3.0	79 to 86	..	36.0	24.8	0.69	161	1.13
Maple—													
2179	128	9.1	4.4	145	0.3	2.0	55 to 65	85	75.0	34.6	0.46	13	0.85
2184	126	11.1	4.6	160	0.5	2.0	90 to 110	80	...	...	...	...	...

(a) Bursting strength divided by weight per ream.
(b) Pulp rather shivey.
(c) Paper contains 25% groundwood.
(d) Chips burned.
(e) Beater furnish contained 20 lb. mineral filler and 6 lb. alum per 100 lb. fiber.

When a wood of relatively low density, such as aspen, is used, consideration must be given to an increase in the number of cords required and to a corresponding increase in the cost of wood.

Hardwoods Economically Desirable for Print Papers

The economic desirability of using the broadleaf species of wood (the hardwoods) in the manufacture of low and medium grade print papers needs little emphasis. The readily available supply of spruce, hemlock, and fir, which at present constitute almost the sole raw material for these grades of paper, is rapidly waning. Even if the cut-over forests containing these species were reproduced on a large scale, they would not reach useable size until after the exhaustion of the accessible supply. The broadleaf species, however, especially aspen, birch, and the gums are not only at present available in very considerable quantities and in localities favorably situated with respect to the markets but give promise of abundant and rapid reproduction, thus insuring a continuing supply.

The introduction of semi-chemical pulp from aspen and birch, and possibly from maple, should therefore assist in supplementing the diminishing supply of pulpwood available to the print paper mills in the states in the North and in the Northeast. The supply of gum wood in the Southern states offers an excellent opportunity for the development of a print paper industry in a region which has hitherto been excluded from serious consideration for the purpose, because of the lack of spruce and hemlock for groundwood and for sulphite pulp.

Application in the Manufacture of Boards

In the manufacture of semi-chemical pulp for use in boards, the selection and preparation of the wood does not demand the care demanded in the manufacture of print papers. As in the case of the latter, however, semi-chemical pulps from the broadleaf woods are preferable to those from coniferous species for reasons already stated. Mill and logging waste can be used where it is economical to do so. "Hogging" may replace chipping. Inasmuch as a light colored product is not a prime essential, such dark colored woods as chestnut, oak, elm, and the red heartwood of gum may be used, although light colored woods need not be excluded.

The details of operating the semi-chemical process in the manufacture of pulps for board do not differ essentially from those which apply in the case preceding. It is not necessary, however, to maintain throughout the digestion the degree of neutrality of liquors which is essential to light color in the product. The bicarbonate may in fact be replaced in whole or in part by carbonate or even by caustic soda. Increased alkalinity of the liquor tends, however, in the case of hardwoods, to lower the yield and to make the product softer, more bulky and weaker.

Laboratory Tests

In board tests made at the Forest Products Laboratory, the previously described equipment was used. Chestnut chips, from which the tannin had been extracted, cottonwood mill waste, and gum mill waste were reduced to semi-chemical pulp and made into light-weight board on the Laboratory's 15-inch fourdrinier machine. The cooking data and the strength data for the boards appear in Table 2.

Commercial Manufacture of Chestnut Board

The production of board from extracted chestnut chips by the semi-chemical process has passed into the commercial stage of manufacture. Over 1000 tons of the new product have been satisfactorily marketed.

The chips are cooked in a 14-foot globe rotary digester with 4 pounds of sodium bicarbonate calculated as carbonate) and 8 pounds of sodium sulphite at a temperature of 150° to 160° C. The pulp is ground in a rod mill 6 feet in diameter and 12 feet in length rotating 14 r. p. m. The capacity of the mill is about 12 to 15 tons per 24 hours depending upon the degree of hydration desired and less than 90 horsepower is required to operate it. The pulp is passed through a jordan to the cylinder machine and made into board 0.009 inch thick. The sheet gives a Mullen test of about 0.5 point per pound per ream. It possesses unusual strength, stiffness, and toughness for the short fibers used in its manufacture.

The sheet has been used successfully for corrugating. Boxes made with chestnut corrugated board have been demonstrated by laboratory test and by actual service in transportation to be fully equal to boxes made with straw corrugated board.

Hardwood Mill and Logging Waste for Board

Efforts to find a use for hardwood mill and logging waste in the standard pulping processes have not been successful. The fibers of the hardwood are too short to yield a strong pulp even by the sulphate process and cannot compete with sulphate fiber made from coniferous woods. Soda pulp, which is practically the only kind made from hardwoods at the present time, must be clean and easily bleached. Well cleaned and thoroughly barked round wood is more conducive to cleanliness of pulp than either mill or logging waste. Moreover, a supply of round wood is available for soda mills, adequate to meet their somewhat limited demands. Thus mill and logging wastes have remained a drug on the market so far as standard pulping requirements are concerned.

The quantity of waste from a single mill is as a rule not large. The large installation cost of a modern chemical pulp mill is not conducive to the establishment of small local plants, and, on the other hand the low value of waste material does not warrant extensive handling and carriage costs to get it to large centers.

TABLE 2.—COOKING DATA FOR HARDWOOD PULPS DESIGNED FOR BOARDS, AND STRENGTH OF PAPER MADE

	Cooking Data								Strength of Machine Made Paper			
		Chemical used per 100 lb. oven-dry wood										
Cook No.	Max. temp. of impregnation	$NaSO_3$	$NaHCO_3$ calculated as $NaCO_3$	Max. cooking temp.	Time to max. temp. after impregnation	Time at max. temp.	Digester gage pressure	Yield oven-dry basis	Weight per ream 24x36—500	Bursting strength (Mullen)	Strength factor (a)	Weight per ream divided by ten thousandths of an inch thickness
	°C.	lb.	lb.	°C.	hr.	hr.	lb. per sq. in.	%	lb.			
Chestnut—												
2048	<100	8.3	..	161	1.8	2.0	83 to 95	81	52.9	27.6	0.52	1.06
2113	110	2.8	4.4	129	0.4	1.0	..	89	117.0	31.4	0.27	0.90
2112	114	4.4	6.7	133	0.4	2.0	..	79	125.5	48.3	0.38	1.05
Cottonwood Mill Waste—												
2119	120	11.5	8.4	155	0.5	2.0	45 to 65	..	108.3	92.8	0.86	1.20
Gum Mill Waste—												
2120	122	10.4	4.1	150	0.3	1.5	50 to 54	..	120.8	85.5	0.71	1.01

(a) Bursting strength divided by weight per ream.

The semi-chemical process, however, through its low cost of installation (about half that of chemical processes, the feasibility of operating it in small units, and the low cost of its product) may prove a valuable aid in converting hardwood waste into valuable board products. To what extent semi-chemical pulp can economically and technically supplement the present ingredients of container and other grades of board has not been fully determined despite the success already attained with chestnut board; but the possibilities are sufficiently great to warrant further careful investigation.

Estimated Cost of Semi-Chemical Pulp for Boards

The estimate of the cost of pulp for print papers, previously presented, applies to pulp for board except that there may be some reduction, due chiefly to the lower cost of wood and of its preparation.

Coniferous Woods in the Semi-Chemical Process

Reference has already been made to the low strength of coniferous pulps prepared by the semi-chemical process. Some typical data bearing out this point, obtained at the Forest Products Laboratory in a study of the process as applied to jack pine, loblolly pine, and tamarack, appear in Table 3.

The pulps usually obtained are rather brash and of poor felting quality, but they bulk well, and it may be possible to use them in certain types of insulating board.

Better felting qualities and improved flexibility and consequently greater strength are obtained with digesting liquor of higher alkalinity. No great improvement in these qualities is obtained, however, without marked sacrifice of yield.

Further investigation of the precess as applied to the conifers is desirable, especially as regards the selection of chemicals and the control of quality in the product.

Acknowledgments

The application of the semi-chemical process to extracted chestnut chips, to cottonwood and gum mill waste for board, and the commercial demonstration of the semi-chemical gum pulp in the manufacture of white paper, all referred to in the foregoing, were made possible by the generous cooperation of the Southern Extract Company, Knoxville, Tenn., the Chicago Mill and Lumber Company, Chicago, Ill., and the Carolina Fiber Company Hartsville, S. C., respectively.

Special mention is due the Southern Extract Company for their patient cooperation in and financial support of the extended investigation which included eventually the establishment of the first commercial unit for a large-scale demonstration of the Laboratory's semi-chemical process.

Attention is directed to the fact that, with the approval of the Secretary of the U. S. Department of Agriculture, applications have been filed in the Patent Office for patents covering the semi-chemical process, the patents, if granted, to be administered with the approval of the Secretary of Agriculture. In view of the nature and extent of the financial cooperation rendered by the Southern Extract Company, and in return for certain manufacturing obligations assumed by the company, and, further, in the interest of a prompt and stable industrial development of the process, the Secretary of Agriculture has approved the granting to the Southern Extract Company, for a period of five years, of the exclusive right to use, and, with the Secretary's approval, to license the process in so far as it applies to the manufacture of board from chestnut wood and of corrugating board from hardwoods in general.

Longview Fibre Co. To Start Construction

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., September 16, 1926.—H. L. Wollenberg, president of the newly organized Longview Fiber Company, Longview, Washington, left September 10 for Wisconsin, accompanied by W. E. Dodge of San Francisco, consulting engineer of San Francisco, who has been retained by the company to supervise the building program under way. As previously announced the paper plant to be constructed by this company will cost $2,500,000 when completed. It is now expected that actual construction will start within thirty days.

In Wisconsin a meeting of engineering specialists will be held to consider designs for the plant, and upon the return of the president and engineer bids will be called for the structures to be erected on the 180 acres recently purchased for the purpose.

Receiver For Plainfield Paper Co.

[FROM OUR REGULAR CORRESPONDENT]

GRAND RAPIDS, Mich., September 14, 1926.—Upon petition of E. C. Prior and B. M. Baxter, directors of the Plainfield Paper Company, Circuit Judge Brown has appointed the Grand Rapids Trust Company as temporary receiver of the concern and hearing has been set for October 4 on an order requiring creditors to show cause why the company should not be dissolved. The directors are represented by Attorney Thomas J. Whinery.

TABLE 3.—COOKING DATA FOR CONIFEROUS PULPS AND STRENGTH OF PAPER MADE

Cook No.	Max. temp. of impregnation	Chemical used per 100 lb. oven-dry wood: $NaSO_3$	$NaHCO_3$ calculated as $NaCO_3$	$NaCO_3$	NaOH	Max. cooking temp.	Time to max. temp. after impregnation	Time at max. temp.	Yield oven-dry basis	Weight per ream 24x36—500	Bursting strength (Mullen)	Strength factor (a)	Folding endurance	Weight per ream divided by ten thousandths of an inch thickness
	°C.	lb.	lb.	lb.	lb.	°C.	hr.	hr.	%	lb.	pts.		No. double folds	
Jack Pine—														
2019		15.1	..	..	6.1	162	0.5	3.5	69	51.0	21.4	0.42	140	0.94
2020		15.1	..	5.8	..	162	0.5	3.5	67	42.5	23.3	0.55	68	0.83
2021-2		14.7	3.2	..	..	162	0.5	3.5	74	47.0	14.6	0.31	15	0.92
2016		15.4	..	..	..	161	0.5	3.5	81	51.0	13.9	0.27	6	0.71
2022-1		16.4	4.8($NaHSO_3$)	..	..	161	0.5	3.5	84	88.0	13.3	0.15	1	0.90
2094	134	6.8	..	..	7.1	161	0.8	2.8	68	109.9(b)	48.0(b)	0.44(b)	80(b)	...
Loblolly Pine Project 7168-1J20—														
2		10.0	..	..	2.0	160 to 162	1.0	3.0	69	...	...	...	...	...
Tamarack Project 7168-3J19—														
10	103	20.5	..	..	..	160 to 168	1.0	4.0	Not determined	...	...	...	...	...

(a) Bursting strength divided by weight per ream.
(b) Hand sheets beaten 60 minutes in pebble mill.

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Paper Making Industry

By Clarence J. West, Chairman

Mechanical Processes

Formula for the Calculation of Grinder Production. D. Sokolowskij. Zellstoff U. Papier 6, 118-120 (Mar., 1926). The factors which are involved in the output of a wood grinder are discussed and a formula is given for their determination.—J. L. P.

Continuous Grinder. G. Nenzel. Wochbl. Papierfabr. 57, 237-243 (Feb. 27, 1926). An historical description concerning the development of the continuous grinder.—J. L. P.

Continuous Grinder. W. Sackel. Papierfabr. 24, 88-91 (Feb. 7, 1926). Theoretical considerations concerning the continuous pulpwood grinder.—J. L. P.

Wood Grinding. E. Liebeherr. Zellstoff U. Papier 6, 199-200 (May, 1926). The greater uniformity in grinder production obtained by the use of the Meteor sharpening roll is discussed.—J. L. P.

Manufacture of Newsprint Paper. B. H. Moerbeek. Wochbl. Papierfabr. 57, 466-469 (Apr. 24, 1926). A general discussion of American practice in the preparation of news print stock for the paper machine.—J. L. P.

Recent Developments in Pulp and Paper Manufacture in America. W. Brecht. Wachbl. Papierfabr. 57,273-275 (Mar. 6); 413-416 (Apr. 10, 1926). Recent American developments in the cutting, transportation, preparation, and barking of pulpwood are briefly described. Modern practice in groundwood manufacture and testing is also discussed.—J. L. P.

Machine for Disintegrating and Making Pliable Fibrous Stalks. C. Vansteenkiste and F. Kuchenmeister. Ger pat. 423,361. Papierfabr. 24, 94-95 (Feb. 7, 1926). Fibrous stalks, such as flax, etc., are disintegrated by passing them between two drum-like machines.—J. L. P.

Pulp Grinder Load Regulation. R. H. Rogers. Paper Trade J. 82, No. 18, 58-59 (May 6, 1926). Description of the General Electric load control system for synchronous motors driving continuous feed magazine grinders, which includes a 3 hp. shunt-wound, direct current motor on each grinder for driving the feed chains through speed-reducing gears, a motor generator for furnishing direct current for the feed motors, and a panel mounting the necessary control regulating and recording instruments. The functions and advantages of the system are outlined.—A. P.-C.

Manufacture of Groundwood. M. J. Argy. Pulp & Paper 24, 419-421 (Apr. 15, 1926). Results are given of practical experience with Voith magazine grinders and the Warren magazine grinder in commercial operations, showing their advantages over pocket type grinders as regards output, power consumption and labor costs.—A. P.-C.

Grinding Stones for Wood Pulp. Norton Co. and W. Greenwood. Eng. pat. 238,176. These improved grindstones are made up of segments of hard bonded material. Between the segments are fillers composed of hard material that will wear in equal proportion to the material composing the segments. The filler is poured in between the segments while hot, so as to fill all crevices and in tough condition.—A. P.-C.

Process of Paper Manufacture. S. Leicester and J. B. Holman. Eng. pat. 247,638. This is an improved process for pulping cellulose and consists in impelling it at high velocity against screen members within a tank. The openings in the screen present cutting edges to the fibers which are rapidly disintegrated.—A. P.-C.

Beating

Hydration of Cellulose. James Strachan. Paper Maker & Brit. Paper Tr. J. 71, 366A-366D (Apr. 1, 1926); World's Paper Tr. Rev. 85, 1062-1064, 1116-1122 (Apr. 2, 1926); Paper Makers' Monthly J. 64, 141-142 (Apr. 15, 1926). A reply to various criticisms of the author's conception and explanation of the phenomena of cellulose hydration.—A. P.-C.

Hydration of Cellulose in Paper Making. James Strachan. Paper Ind. 8, 235-237 (May, 1926). From the results of experiments and of many years' experience in the laboratory and mill, the author has arrived at the conclusion that during the desiccation or drying of cellulose under various conditions there is no evidence to show that cellulose forms a chemical hydrate with water in definite molecular proportions, and having a definite vapor pressure at a constant temperature. In the beating operation we have to consider the velocity of imbibition of water by cellulose, which is in the form of a porous elastic gel having a regular structure; and in order to illustrate it experiments were conducted on blocks of vulcanized rag fiber, in which fiber structure had been largely retained but interfiber space eliminated. These experiments show: (1) The velocity of imbibition is represented by a logarithmic graph similar to that observed in the case of other elastic gels. (2) In the porous gel, the velocity of imbibition is increased by pressure, vacuum conditions and heat, and this increase is due to the removal, compression and solution of absorbed and included gases such as air, resulting in increase of specific surface. (3) Velocity of imbibition is directly proportional to the specific external surface of the mass, and to increase of surface due to swelling. (4) Velocity of imbibition in saturated or air-free specimens is increased by pressure and cold, but diminished by heat. (5) Velocity of imbibition is increased or retarded by various substances in dilute solution. Hydration of the fiber during beating is considered to be the increment of water imbibed during disintegration and fibrillation of the cellulose, and may be measured by weighing the water retained by the samples at a standard pressure and temperature, the difference between the water of imbibition in the unbeaten pulp and that of the beaten pulp being the so-called water of hydration. The method found most satisfactory so far has been the use of a miniature hydraulic press operating on about 5 g. of air dry pulp drained in a level layer about 6.5 cm. in diameter, by which it may be proven that the increment in imbibition due to fibrillation in beating of very wet stuff is approximately 100% (or equal to the weight of dry fiber), while in normal wet beating it is about 40 to 50%. Plotting increment of water retained against time gives a straight line over the major portion of the beating, showing that hydration is not only proportional to increase of specific surface but also to horsepower hours of beating. The fibrillas into which beating breaks down the cellulose fibers are conceived to be formed from chains of cellulose molecules and their arrangement in the fiber is the result of growth along one or two axes. These results and considerations relate to pure normal fibrous cellulose; but in their application to practical paper making the following must also be considered: (1) variations in minute fiber structure in cellulose from various plants; (2) presence of impurities in the cellulose, such as ligneous matter and oxycellulose; (3) the past history of the fiber and changes brought about during its isolation.—A. P.—C.

Hydration of Celulose. C. J. J. Fox. Paper Maker & Brit. Paper Tr. J. 71, 366-366A (Apr. 1, 1926); World's Paper Tr. Rev. 85, 1060, 1062 (Apr. 2, 1926), Paper Makers' Monthly J. 64, 140-141 (Apr. 15, 1926). The author considers that the facts that cellulose hydration curves are unbroken (indicating a continuously variable vapor pressure consistent only with the presence of physically held water), and that lack of evidence of the

existence of a definite vapor pressure (such as would be expected in the case of a true hydrate) favor the non-existence of cellulose hydrate, but is not conclusive proof.—A. P.—C.

Practical Beater Construction. A. Hauser. Wochbl. Papierfabr. 57, 295-296 (Mar. 13, 1926). Polemic with S. Smith, Wochbl. Papierfabr. 57, 56-57, 148-151 (1926).—J. L. P.

Reducing Power Consumption in Beating. H. Micoud. Papier 29, 401-408 (Apr. 1926). From a discussion of the relation between minimum power input, cost of power, output, and net profits, the author concludes that the most economical procedure is to adjust beating conditions so as to obtain the desired degree of beating in the minimum of time, even at the expense of somewhat larger power consumption, the increased power cost being compensated by the greater output.—A. P.—C.

Beater Efficiency. H. Mallickh. Wochbl. Papierfabr. 57, 338-341 (Mar. 20, 1926). The results of several tests with four different types of beater construction are compared with similar tests on the new Silesius beater. An increase in the efficiency of the usual open trough beater from 40 to 90% requires an increase in power cost from 25 to 50%. The Silesius beater shows a production increase of 130% with a diminution in power cost to 45%.—J. L. P.

Beater and Paper Machine Rolls. W. Okura. Eng. pat. 245,682, Jan. 14, 1926. In order to eliminate all exterior driving and gearing means, the roll is constructed to consist of a cylinder forming the rotary part of a motor, the stator of which is in the interior of the roll, being mounted on a fixed shaft on which the roll rotates. This construction permits of observing the mechanical adjustment of the roll from a distant point. In a beater roll, for example, the power consumption varies with the clearance between the flybars and the bedplate, and the power input is therefore a measure of the position of the roll relative to the bedplate.—A. P.—C.

Continuous Pulp Beater. K. B. Howell, assignor to Barrett Co. U. S. pat. 1,568,068, Jan. 5, 1926. A horizontal perforated plate is placed under the roll to allow the passage of the beaten pulp therethrough.—A. P.—C.

Construction of Papermaking Equipment in France: A New Beater. P. Dubreuil. Papier 28, 1307-1312 (Dec. 1925). A discussion of the drawbacks of the hollander type of beater, with a description of the Thorsen adjustable bedplate beater and a discussion of its merits and its advantages over the hollander.—A. P.—C.

Hydrating, Beating and Refining Machine. E. B. Fritz. U. S. pat. 1,556,926, Oct. 13, 1925. The machine comprises a number of superimposed communicating chambers. The material is received over the whole axial length of each chamber and falls in a direction tangential to the corrugated surface of the beater, so that the material acts by gravity and reduce the amount of driving power required. The corrugations of the beater walls are broken at their lowest point to allow a free downward passage of material to the next chamber. The chamber walls are curved, with inwardly tapering disk segments lying close to the surface of the beater rolls. The latter are built up of a number of disks assembled on their respective shafts.—A. P.—C.

Bleaching

Protection and Improvement of Artificial Graphite Electrodes Used in the Electrolysis of Alkali Chlorides. Umberto Pomilio. Chimie et Industrie, Special No. 286-316 (Sept. 1925); Pulp & Paper 24, 489-491 (Apr. 29), 515-517 (May 6), 545-548 (May 13, 1926.) A detailed description of a large number of tests on the effects of impregnation of electrodes with paraffin, linseed oil, chlorinated linseed oil, naphthalene and chlorinated naphthalene on the life of the electrodes. Naphthalene and chlorinated naphthalene showed considerable protective action in the presence of sulphate and chlorate ions, both of which exert a very destructive action; with a pure electrolyte in which the anode is subjected to the much less destructive action of pure chlorine ions the treatment is not of much advantage. Impregnation with linseed oil (both as such and chlorinated) is quite harmful, especially in the presence of sulphate and chlorate ions, treated electrodes being destroyed much more rapidly than untreated ones; and this was confirmed in the course of commercial operations. Irregularities and apparent anomalies in the results are attributed to inevitable variations in the graphite electrodes, even from the same lot.—A. P.—C.

Siemens-Billiter Process As Employed by the Pulp and Paper Industry. E. Belani. Papierfabr. 24, 143-145 (Mar. 7, 1926). The Siemens-Billiter electrolytic cell for the production of chlorine is described.—J. L. P.

Chlorate Formation in the Commercial Production of Electrolytic Chlorine. F. Roth. Zellstoff U. Papier 6, 71-72 (Feb. 1926). In the manufacture of bleach from electrolytic chlorine a small amount of free hypochlorous acid is sufficient to convert calcium hypochlorite into calcium chloride and calcium chlorate. Chlorate formation also occurs as a result of the reaction between calcium carbonate and chlorine. The presence of large amounts of chlorates is indicated by the purple color of permanganic acid, manganese being generally present as an impurity in the lime.—J. L. P.

Bleaching: Preliminary Requirements for the Same and Studies on a Large Bleacher. Anon. Wochbl. Papierfabr. 57, 354-357 (Mar. 27, 1926). Preliminary requirements for a good bleaching pulp are (1) a rapid separation of the fibers from the waste digester liquors by washing with warm water and (2) a thorough subsequent washing and dewatering preferably by means of filtering or pressing. The bleach liquor should not be turbid in appearance and be concentrated enough (5° Bé.) for producing a permanently white pulp. After bleaching, the fibres are preferably washed in a Wolf filter. Temperature, power consumption and rate of stock circulation curves are given for a Thunes bleacher.—J. L. P.

Thorne Bleaching Process. J. Funcke. Papierfabr. 24, 217-220 (Apr. 11, 1926). The Thorne wood pulp bleaching process is carried out in two stages: the first stage consists of a vertical tower through which the pulp, at a high density, is fed by gravity. The stock consistancy is about 20% and the temperature about 20° C. Air is introduced by means of a hollow, slowly rotating stirring arm. The second stage consists of a similar high density system, or of the usual low density Bellmer bleacher. The pulp is washed between the stages. The following advantages are claimed for the high-low density system: a saving of 30 to 40% in chlorine, 50% in steam, 30% in time, and the production of a superior pulp having a higher fiber strength, folding endurance, tearing strength, and actual cellulose content. After long storage the stock showed no tendency to yellow.—J. L. P.

Considerations Concerning the Thorne Bleaching Process. E. Opfermann. Papierfabr. 24, 220-222 (Apr. 11, 1926). Critical considerations concerning the bleaching of pulp by stages, with especial reference to the Thorne process. Two stage systems afford an economy which is not possible with the one stage process.—J. L. P.

Bleach Studies on Wood Pulps. H. Wenzl. Papierfabr. 24, 81-88 (Feb. 7, 1926). From bleaching experiments carried out on a Mitscherlich sulphite pulp, with a chlorine requirement of 5%, in a bleaching hollander, using a stock consistency of 6%, and at 35° C., results show that strongly hydrolyzed hypochlorites are superior bleaching agents and that the alkali hypochlorites, such as sodium hypochlorite, exert a greater solvent action on the pulp incrustations than the alkaline-earth hypochlorites, such as calcium, magnesium, and barium hypochlorites. Neutral salts, i. e. salts which do not participate in the bleaching action, influence the solubility of carbon dioxide in the bleach solution and hinder the bleaching process. Whiteness measurements of the bleached pulps by means of the Ostwald half-shade photometer show that calcium hypochlorite containing a high chloride content produces an inferior effect. The presence of large quantities of neutral salts,

such as sodium chloride, sodium bi-carbonate, magnesium chloride, etc., behave similarly. Stag bleaching, with an intermediate washing with water, sodium carbonate solution, or dilute hydrochloric acid, was not successful. Fibers loaded with calcium carbonate were not completely bleached and the resulting pulp possessed a higher copper number and pentosan value. Figures for the available chlorine consumption permit the evaluation of every stage in the bleaching process. The carbonate content of the sodium hypochlorite solutions acted to retard the rate of bleaching, but the addition of such substances as magnesium sulphate or calcium chloride, which precipitate the carbonate ion, accelerated the chlorine consumption. The presence of sodium acetate also produced an acceleration, although the pulp was of inferior whiteness.—J. L. P.

Bleaching Pulp in Vacuum with Hypochlorite. Raffaele Sansone. Papeterie 48, 21-25, (Jan. 10, 1926). Brief description of an apparatus allowing of bleaching in vacuum, with an outline of its operation and advantages.—A. P.—C.

Cold Bleach at High Densities. Max. E. Boehm. Paper Mill 49, No. 17, 4, 8 (Apr. 24, 1926); Paper Trade J. 82, No. 17, 45-46 (Apr. 29, 1926); Paper Ind. 8, 239-241 (May 1926). Discussion of the merits of the Biggs globe bleaching engine, in which bleaching can be carried out at room temperature with stock at a consistency of up to 30%. The advantages are: (1) low power consumption (2 hp. hr. per ton); (2) faster bleaching (1 hr.); (3) material reduction in bleach consumption; (4) cold bleaching is made possible on account of lower time consumption and a much cleaner and stronger pulp, as well as pulp of a higher color, is made possible over that secured in low density or hot bleaching methods; (5) owing to the short time required and the absence of excessive agitation the pulp is not over hydrated.—A. P.—C.

Bleaching Pulp. Koeln-Rottweil Aktiengesell. and E. Opfermann. Eng. pat. 234,454, May 22, 1924. Bleaching with sodium or calcium hypochlorite is carried out in the presence of a small quantity of caustic soda, alkaline-earth hydroxide or magnesium hydroxide, which may be about 1% of the weight of the pulp.—A. P.—C.

Bleaching Paper Fibers With Bleaching Powder. O. Heijne. Svensk Pappers Tid. 28, 510-1, 537-9 (1925). A résumé of theoretical speculations regarding the composition of bleaching powder, methods of using the powder, recent investigations on its industrial application and the effect on it of carbon dioxide. Heijne recommends the use of catalyzers to hasten the bleaching action.—C. J. W.

Sizing

Rosin Supply in Finland and the Problem of a Rosin Substitute. Anon. Wochbl. Papierfabr. 57, 392-393 (Apr. 3, 1926). The sources of rosin and similar substances are discussed. Rosin size may be substituted to the extent of 50% by glue. In the substitution of rosin size by water glass, about 2 to 3 kg. of the latter, and as much alum, may replace 1 kg. of the former.—J. L. P.

Analysis of Rosin Size. M. Gottloeber. Papierfabr. 24, 125 (Feb. 28, 1926). Instead of the usual methods of ether extraction of the rosin precipitated by sulphuric acid in the determination of the "total rosin" in size, a separation of the rosin precipitate from the liquid by means of dried and weighed filters is suggested. Twenty to 25 cc. size milk, containing about 15 to 20 g. rosin liter, is treated with sulphuric acid and the mixture filtered through a 9 cm. filter, previously dried and weighed. The precipitate is washed with cold or slightly warm water until acid free (test with $BaCl_2$), and dried on the filter at 105° C. to constrain weight. The difference between the weighings is the total rosin, which represents the sizing colloids from a practical standpoint.—J. L. P.

Theory of Rosin Sizing. E. Oeman. Papierfabr. 24, 49-58 (Jan. 24, 1926). The resinate theory of Illig, the free rosin theory of Wurster, as well as the results of recent investigations by Schwalbe and Robesahm on the effect of aluminum sulphate on sulphite pulp, and the sizing experiments of Stockigt and Klinger and of Lorenz, are reviewed. From experiments with different kinds of pulps and ash-free filter paper it is concluded that aluminum from dissolved aluminum sulphate is absorbed by the fiber in proportion to calcium content. Aluminum absorbed by fibers can be transferred by water to fibres which have not previously contained this element. It appears probable that the aluminum has replaced the calcium in the fibers, the latter becoming positively charged thereby. The degree of dispersion of the rosin sol, as well as the charge on the rosin, is influenced by the aluminum ions in the water and the pulp more readily absorbs the rosin. Other salts behave similarly. If the degree of dispersion is sufficiently fine, neither aluminum or other salts in the aqueous solution are needed for rosin absorption, for the alum treated pulp absorbs the rosin directly. Ferric salts behave in the same manner, but ferrous salts react negatively.—J. L. P.

Theory of Rosin Sizing. C. G. Schwalbe. Papierfabr. 24, 142 (Mar. 7, 1926). Polemic with E. Oeman (preceding abstract). The ash content of wood pulps is not responsible for the absorption of aluminum compounds. The degree of swelling of the fibers has a greater influence on absorption.—J. L. P.

Determination of the Nature of Sizing in Paper. Anon. Zellstoff U. Papier 6, 203-206 (May 1926). A summary of the tests employed to differentiate between glue, casein and rosin sizing in paper.—J. L. P.

Sizing Paper. J. A. DeCew assignor to Process Engineers, Inc. U. S. pats, 1,558,845 and 1,558,846. Oct. 27, 1925. *No. 1,558,845.* Precipitation of rosin from size is effected after completion of the beating action of the jordan engine. *No. 1,558,846.* This patent specifies treating paper pulp with rosin emulsions and colloidal aluminum hydrate, and, after the rosin emulsions are coagulated, adding aluminum sulphate.—A. P.—C.

Improved Sizing Process. M. F. Dobler. Fr. pat. 577,349, June 3, 1924. After engine sizing with rosin and sulphate of alumina in the usual manner, the acidity of the stock is partially or completely neutralized by addition of a compound such as calcium carbonate, which forms with the acid a neutral salt which does not attack the precipitated size—A. P.—C.

Colloidal Nature of Sizing with Rosins. E. Oeman. Svansk Pappers-Tid. 29, 82-84 (1926). Concentrated sulphite causes much trouble in rosin sizing. Oeman discusses two theories of the use of aluminum compounds in sizing involving hydrolysis into colloidal aluminum hydroxide and the taking up by the fiber of positive aluminum and subsequent addition of negative resins. Oeman suggests that the second theory more logically explains the differences in the amounts of rosin needed by different plants to produce the same sizing results. Other metals, such as chromium, iron, copper and zinc, may be substituted for aluminum.—C. J. W.

Sizing Paper With Rosins. E. Oeman. Svensk Pappers-Tid. 28, 534-537, 585-587, 611-612 (1925). A summary of the work done by different investigators from Illig in 1807 to date on the use of rosin in sizing paper, the use of alum with rosin, the effect of rosin size on sulphite cellulose, the presence in sulphite cellulose of substances injurious to resin size and the value of determining the hydrogen ion concentration.—C. J. W.

Effect of Iron in Sizing Paper with Rosins. E. Oeman. Svensk Pappers-Tid. 28, 483-484, 508-509 (1925). In sizing the fibers take up Fe from ferric compounds but very slightly from ferrous compounds. Ferric compounds are more harmful than ferrous compounds to the color of the paper. The iron in ferric compounds acts the same as aluminum in alum in fixing the resin on the fiber; to this extent iron is helpful. Iron-contaminated alum contains both ferrous and ferric compounds but more of the former. Alum containing to 0.4% iron (ferric) is not harmful to white paper and 0.2 per cent ferric iron apparently has no effect on the color.—C. J. W.

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Cash Discounts*

By Erwin J. C. Schmiel

Accountancy in its present stage of development embraces so many topics of major as well as of minor importance that it has become the practice, virtually born of necessity, to isolate various phases for special study and consideration. Undoubtedly, a searching examination of a particular phase of accounting matters, resulting in accurate and logical conclusions definitely correlated with general accounting principles, should result in giving greater precision to those general principles. However, any theories which may be developed in this manner, but which lead through inferences, though properly drawn from the premises, to conclusions which are found not to conform to basic general principles and which thereby impeach the soundness of the latter, ought to be disregarded at once. On the other hand, it is not impossible that new major theories may be advanced upon such good grounds that a revision or modification of some established principles may become necessary.

Interesting and Speculative Aspects

While the subject of cash discount is only a minor topic presenting nothing especially novel and much that is of academic interest only, it nevertheless offers some interesting and speculative aspects. From time to time articles by accountants and economists have appeared in support of the idea that a cash discount is not all what it is ordinarily conceived to be. Some economists particularly are prone to denounce the traditional views held respecting cash discounts. While it may be true that practical accountancy and economics have very little in common, it does seem desirable (for reasons not pertinent to this discussion) to establish and elaborate upon all common points of contact between economic accounting theory. Contributions to this end by the economist ought to be welcomed, but it does seem as though on the subject of cash discounts the economist is trying to evolve a theory to fit his conception of their proper practical treatment on the books of account. Apparently it is a case of the tail trying to wag the dog.

The offer of a cash discount by a vendor to a vendee gives the later an optional plan of settlement which he may decline, accept, or neglect, as expediency may dictate. A typical plan may be stated as "2% 10 days—60 days net" which, as everyone knows, means that the amount billed is expected to be paid within sixty days, and if it is paid within ten days the vendee may deduct two per cent from the billed price in settlement. Every theory regarding such two per cent reduction centers itself wholly around the question, "What does it represent?" The treatment of cash discounts on the books of account is not of great importance in the discussion because any valid theory will suggest its own proper application.

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The traditional theory assumes that a cash discount is precisely what the name implies—an allowance for cash. In order to distinguish that conception briefly the term "allowance theory" will be used herein. The alternative theory, diametrically opposed to the foregoing, assumes that the term "price" as it is usually understood is composed of two distinct elements, i.e., the amount which the vendor will accept in full settlement within the discount period, which the proponents of this theory variously term as the real, nominal, or cash price, plus a surcharge which the vendor exacts for non-payment within a specified limited time in order to reimburse himself for additional services rendered by reason of the extended time over which he is compelled to wait for his money. This will be termed the "surcharge theory". In order to avoid any ambiguity, the price as it is usually understood will be termed the "gross price", and the gross price less the amount of the discount, the "net price". The issue, therefore, between the two positions is that one group assumes that the amount is an allowance, the other, a surcharge.

Opinion seems to be unanimous on one point—that regardless of whether the amount of the discount be an allowance or a surcharge, it should be classified in the profit-and-loss statement as a financial management item.

Identical Amount to Vendor and Vendee

At the outset, it is a fair statement that the cash discount is an identical amount to both the vendor and the vendee concerned, to each of whom it must retain the same essential characteristics consistent with the theory that is adopted. Any other view—for instance, an assumption that both sales discounts allowed and purchase discounts neglected are items of expense—is a denial of the individual characteristic of the cash discount itself. To clarify this point, assume that a vendor sells $10,000 worth of merchandise to various vendees, the latter taking a two per cent discount on one-fourth of their purchases. The vendor under the above assumption would show sales of $10,000 and a debit under financial management expenses of $50 discounts allowed. The combined reports of the vendees would show purchases of $9,800 and a debit under financial management expenses of $150 discount neglected. In practice similar conditions will be found to obtain frequently, but from a logical standpoint such views merely beg the question, permit ambiguity to replace consistency, and in fact it may be justly contended that such views deny the existence of any principles at all with respect to cash discounts.

With respect to the opposing positions, therefore, if the cash discount is an allowance it must be considered as an expense to the vendor and as an item of income to the vendee when the latter avails himself of the discount privilege. If he declines or neglects the discount privilege the part of the sales contract relating to cash discounts becomes inoperative. But if the amount of the

cash discount is a surcharge, it takes effect only when the vendee fails to make payment within the discount period, and in that event the amount of the surcharge is an expense to the vendee and an item of income to the vendor.

Controversy Centers Around Purchase Discounts

The controversy seems to center itself around purchase discounts to the complete disregard of sales discounts. However, the relationship between the two is one of such mutual dependence that in any discussion independent theories respecting either must be subordinated to the central idea of a cash discount. The offer of the discount privilege originates solely with the vendor, who determines the rate of discount, or surcharge, and therefore, the motives which induce the vendor to make the offer ought to be a prime consideration in determining the nature of the discount. Yet in actual practice this is not always quite true, because very often the only compelling reason for offering cash discounts is imposed upon the vendor from extraneous sources: for instance, by the practice of competitors.

. Those who so strenuously oppose the ordinary conception of a cash discount advance what has been termed the surcharge theory. A fair example of their argument, assuming a case of a sale for $100 less a two per cent. discount for payment within ten days, runs about as follows:

". . . It is ridiculous to assume that any sane business man would sell merchandise reasonably worth one hundred dollars for ninety-eight dollars in cash . . . "

" . . . What really happens, then, when a sale is made for one hundred dollars on the terms mentioned is that the vendor sells merchandise for the nominal value of ninety-eight dollars and charges two dollars to reimburse himself for assuming the additional service. . . . " (By additional service, interest, bookkeeping and credit insurance is understood.)

Confuse Price With Value

" . . . It is doubtful whether the average business man knows why he allows two per cent rather than three per cent or some other rate for cash. . . . "

The first statement above confuses price with value and seems to imply that an absolute value of the merchandise is readily ascertainable. Gross prices are continually subject to the forces of supply and demand without any reference to the cash discount differential. They are also subject to variation by reason of changes in the general price level, which may or may not be accentuated by influences within the scope of any particular industry which may be under examination. In many lines of business there are neither uniform practices with respect to cash discounts nor uniform rates, and it is absurd to assume that any governing market prices are based on so-called cash prices. Finally, the whole statement is based on a false premise, namely; the assumption that the receipt of the net price within the discount period makes the transaction a cash sale. Inasmuch as the discount period varies in different classes of business from ten to thirty days, an acceptance of this theory would involve a somewhat radical change in the usual conception of a cash sale.

The second statement assumes that the discount, or rather the two-dollar surcharge, is a definitely determined charge for services rendered, and the third statement weakens the whole argument with the admission that the average business man does not know why he charges any particular rate. In fact, no relationship exists between this surcharge and any of the services for which it is claimed that the charge is made. Any business man, or any accountant or economist for that matter, would be sorely puzzled as to how to effect any logical reconciliation between the two.

There are many inconsistencies and obstacles in the way of accepting this surcharge theory. For instance, it is difficult to follow the implied consequence that a fixed percentage of a fluctuating gross price will accurately determine the real price and at the same time a consistent amount of surcharge for these additional services, whatever they may be, with the further necessary consequence that the net price and the surcharge amount remain in the same ratio throughout all the fluctuations of gross prices. Following this to a logical conclusion, in the event of increasing gross prices with probably an increased profit for the vendor and no increase in the cost of services rendered for which the surcharge is made and very likely a decrease in the ratio of such costs to gross sales, how can an increased surcharge to the vendor be justified?

Many vendors do not make cash discount offers; nevertheless they do sell on terms of thirty days, sixty days, etc. If we are to accept the surcharge theory, the very reasons, which it is argued, impel the vendor who sells for cash if received within the discount period, to add a surcharge for extended credit, apply with equal, if not more force to the vendor, who extends considerable credit but permits no discounts to be taken. So we might be led momentarily to the conclusion, if we accept the validity of the surcharge theory, that every vendor, no matter what his terms may be, calculates his net price first and then adds a surcharge for other services to reimburse himself if payment is not received withing the discount period. Of course, this is true neither in practice nor in theory. The rate of discount is a constant factor but the amount of discount is a constant fluctuating figure bearing no relationship to the services conceived to be rendered therefor.

Surcharge Variously Termed

The amount of the surcharge has been variously termed as, or compared with, interest, vendor's charge for risk-taking, credit insurance, bookkeeping, etc. Sometimes it is claimed that several of these elements are characteristic of the surcharge.

Those who oppose the idea that the amount of the surcharge resembles interest almost invariably advance as a reason for their opposition the fact that no business man would pay such a high rate for money as they conceive the annualized discount rate to be. For instance, the terms 2%—10 days—net 60 days are said to represent a rate of approximately 72 per cent per annum, presumably because two per cent for ten days is about equivalent to 72 per cent a year. The reasoning is faulty. If the vendee does not pay within ten days, he is then entitled to delay payment for sixty days but loses the discount privilege which is equivalent to saying that he must pay a two per cent surcharge (exactly .02034). Therefore, he retains the use of the money for 60 days and the vendor loses it for the same period. This is equivalent to an annual rate of about 12 per cent. On the other hand, if the vendee settles within ten days he loses the use of the money for fifty days and the vendor gains it for at least the same period, making the annual rate equivalent to about 14 per cent.

The fact that any attempt to annualize the discount rate usually results in a rate greater than that ordinarily thought of as a normal or legal interest rate is not the cheif objection to assuming discount rates to be interest rates, even though the annualized discount rate were exactly equal to the normal or usual interest rate. Interest is the price or rate per centum per unit of time that is paid for the use of money. So far as discounts are concerned, however, the element of time is indefinite. If terms are quoted as 2%/10 days—net 60 days, the two per cent discount results in a flat gain if paid within ten days, otherwise it must be paid regardless of whether the vendee settles in 30, 60 or 90 days. Now, if payment is not received in ten days, the assumption that the surcharge at the rate of two per cent is interest whether for 30, 60 or 90 days does not meet one of the cardinal requirements of the interest concept.

Not an Appealing Idea

The idea that the amount of the surcharge is a charge for risk taking or for credit insurance is not very appealing. Why a particular vendee who does not take the discount, but in fact does pay his bills within thirty or sixty days—and this may happen

time after time in the case of some particular vendees—should be penalized by an additional charge, because the vendor has assumed a risk which continues to be good and justified, is not at all clear. And if a credit risk turns out to be bad, how the addition of this surcharge to a net price which is really uncollectible helps matters is also not quite clear. However, it is argued, the point is that collections are speeded up by granting the allowance, or foregoing the surcharge, if bills are paid within the discount period, thereby reducing the number and amount of risks. But the majority of vendees who are able to and do discount their bills regularly, are usually the ones who are in a sound financial condition, while those of precarious financial health probably would not discount their bills no matter what the inducement offered might be. So those whom we try to reach with this bait will not be tempted.

Gross sales prices are assumed to provide for all costs and expenses incident to carrying on in every business, and any risks entailed in the granting of credit shou'd be, and usually are, covered by a reserve for bad debts.

Another Interpretation

Another interpretation of the surcharge theory is, to the effect, that the charge is for the work and services rendered by the accounting and credit departments. Of course, it would hardly be claimed by the most enthusiastic exponent of this idea that the work of bookkeeping and checking of credits applies only to accounts in the case of which offered discounts are allowed to lapse. If all the customers of a vendor who made provision for the recovery of these expenses by this method discounted their bills it would seem as though there might be no revenue to cover the expenses of these departments, which would continue to function in any event. Nor does there appear to be any merit in the necessary consequence that the charge for such service should be ten times as great in a sale of $250 as that in a sale of $25. Such claims are quite fantastic.

It is contended by those opposing the allowance theory that there are vital objections to it which necessitate a revision of the usual conceptions regarding cash discounts, as well as a change in their practical treatment. To meet such objections it is necessary to differentiate between purchase and sales discounts, or their complements regarded as surcharges, although it is not consistent nor in accord with fundamental principles.

The Usual Objections

The usual objections are that the practical application of the allowance theory overstates inventories; that the gross price is a fictitious figure while the net price only is of importance; that it results in recording savings which have no place in accounting records, and that it does not reflect the sum lost by neglecting to take advantage of the discount privilege, or rather the sum of the surcharge paid.

One of the most difficult problems confronting the auditor is found in the endeavor to arrive at sound conclusions respecting inventory valuations. Here, if anywhere, the accountant is called upon to exercise his most discriminating judgment. Without touching upon questions involving such intricate valuations as those relating to materials subject to obsolescence, to special materials acquired for particular purposes, or to materials the market price of which is subject to erratic fluctuations, it is difficult enough to value sound materials currently used. In the latter case the valuation principle of cost or market, whichever is lower, is generally applicable. If the surcharge theory is preferred, all materials purchased will be recorded at net prices and the inventory must be valued similarly; if the allowance theory is accepted gross prices will be used in both instances.

A Well Established Fact

It must be remembered that it is just at the point of valuing inventories that every business comes into contact with the general productive field for the important factor of price determination for its own inventories, and there seems to be no justification for presuming that any special advantages or disadvantages attached to past purchases are also inherent possibilities relative to market prices or conditions of the replacement market as of the inventory date. It is a well established fact that market prices are quoted gross and that by and large in the entire commercial world such gross prices are the recognized values in exchange. Whether vendors offer discount privileges or not, and whether vendees are able to avail themselves of the discount privilege or not, such recognized values must be considered the ultimate standard of reference in the valuation problem. Cognizance must also be taken of the fact that in so far as costs play any part in determining prices, such costs must be based on gross prices and not on net prices. While in actual business practice the free play of economic laws is hampered and restricted, ordinary business conditions do tend toward the operation of economic laws, and it is evident in these circumstances, and to the extent to which economic laws impinge their influence upon every-day transactions, that prices will tend to be determined by the marginal producer. This producer operates under the most disadvantageous conditions, yet his product is necessary to supply the demand. It is safe and conservative to assume that he will not discount his bills, and that his merchandising cost will be based upon gross prices, as he will not recognize the so-called surcharge as anything other than a prime cost. In fact it might be a somewhat serious undertaking not to do so. It appears, therefore, that values in exchange are continually tending toward gross prices, and in view of these conditions it is not illogical to recommend the use of gross prices wherever market prices must be used for inventory valuations. With all due regard for conservatism, the gross market prices are, after all, the best criterion of value when consideration is given to all of the varying conditions of business operations. And as a corollary to the foregoing, producers who are able to command sufficient resources to enable them to discount all or a part of their bills receive a definite advantage which takes the form of income.

Validity of the Allowance Theory

Perhaps something ought to be said concerning the validity of the allowance theory in such cases where discount rates are higher than two per cent.—say five per cent or seven per cent. It has been contended that as the discount rate increases it reaches a point where it suffers a transformation and assumes the nature of a trade discount. The first difficulty encountered in any attempt to support that idea is the impossibility of fixing that point with any degree of certainty. If all conditions surrounding cash discounts remain constant, with the one exception that the rate be increased from two per cent to four per cent, what logical reasoning will sustain a differentiation between cash discounts and trade discounts within those limits? Any change in those limits of the range of cash discounts leaves the same insurmountable obstacle. The second objection lies in the fundamental difference between the nature of a cash discount and a trade discount. A true cash discount is an allowance from the gross price for payment within a specified period, while a trade discount is a varying equalization factor applicable to more or less stable price lists to obtain current gross prices. So long as the stated discount terms, irrespective of rates, are enforced, i.e., an actual allowance is made for payment within the discount period or collection of the gross price after the discount period has elapsed, a true cash discount must be understood to obtain.

We are not concerned here with a justification for the practice of offering cash discounts, neither is it germane to the discussion to inquire why particular rates prevail, nor to determine any or all of the causes for the great variance in rates and other terms. But it is important to indicate, in a general way, that the existence of high discount rates does not vitiate the general principles of the allowance theory. The reason usually advanced for the assumption that high-rate discounts are not strictly cash dis-

counts is that no business man would pay such a high rate for the use of money. Now that implies at least a subconscious tendency to evaluate cash discounts on the same basis as interest, which, as has been shown heretofore, is not strictly correct. However, grant for a moment that no business man would pay so much for money. It is then pertinent to ask, what does he pay for, where say an eight per cent cash discount is offered, which he does not or can not accept? Every argument, which has been advanced against the surcharge theory, gains in weight and force when applied to high-rate discounts.

A More or Less Passive Position

From the vendee's point of view, the gross price as an entity, without any attempt to examine its inseparable elements, indicates to him what he must expect to pay for any desired goods, but he will avail himself of the most advantageous terms offered, everything else being equal. His position is more or less a passive one in the process of fixing cash discount rates and terms. Vendors are the prime movers in this process, and every vendor, to a greater or less degree, makes his estimates of the entire situation with respect to his operations in the light of his general comprehensions of fundamental business relationships together with an analysis of the problems peculiar to his own business. Certainly he understands the relation between a rapid turnover of his accounts and inventories and gross profits and the advantages of increasing his volume of sales in this manner rather than by borrowing capital, which has its limitations. Rates, therefore, will depend upon how highly this turnover is valued, upon the percentage of gross profit earned in each turnover, and also upon the condition that the inducement to vendees to liquidate their liabilities must be attractive to become effective. The latter will probably always require an offering of a greater sum than that based upon current interest rates prevailing in particular industries, as well as in different localities. There is, therefore, no inconsistency in assuming that discounts at high rates are cash discounts, because the allowance will be commensurate with the advantages to be gained. From the surcharge point of view, no charge of six, eight or ten per cent will ever measure the disadvantages attendant upon, or compensate the vendor for, a retardation of turnover, while the allowance theory does definitely indicate to the vendor how much it has cost him to obtain the advantages of the quicker turnover, with all its implied benefits, to the extent that vendees do make the effort to discount their bills.

Not a Sound Reason for New Theory

Finally, the argument that the important thing for the vendee to know is the amount of discounts lost, and that a revision of accounting procedures is essential for their determination, is not a sound reason for evolving a new theory. It must be confessed that knowing either one of the factors, i.e., discounts taken or discounts neglected, without knowing the other does not furnish sufficient information upon which to base conclusions. Only by making comparison between total discounts offered, accepted and neglected can any definite conclusion be reached as to the efficiency with which this phase of the business is being administered. Certainly this information can be readily obtained without the help of a new theory. From the practical point of view, there is nothing in favor of the surcharge theory, as its application entails additional work in every instance.

Forced by Trade Practices

Undoubtedly in many instances the granting of cash discounts is forced upon the vendors by trade practices and the methods of competitors. Otherwise, it is a useful expedient to induce vendees to liquidate their liabilities and so enables the vendors to increase their rate of turnover which is one road to increased profits, the goal of every progressive concern. Expenses are entailed in every effort to promote and stimulate business, and so the cash discounts which are allowed by the vendors precisely in line with such endeavors are definite expenses to them.

Reducing Fire Risk

W. Robert McMurray, Alliance Inspector, District No. 21, writes as follows under the caption of "Bearings" in the *Lumberman's Underwriting Alliance Bulletin*:

There are two types of bearings used at saw mill plants whether they are on line shafts, machines or tighteners. The most commonly used is the plain or babbitted bearing. The other type is the roller bearing.

The function of a bearing is to give adequate support to the shaft, gears or wheels which rotate upon them in order to keep the proper alignment. While thus employed they must allow the shaft freedom to revolve and at the same time protect themselves from undue wear, in order that the useful life of the machine may be extended. In other words, a bearing should be used that makes for the minimum outlay for running and repairs.

There is considerable difference in the initial cost of a babbitted bearing as compared with the roller type bearing, but the advantages are greatly in favor of a roller bearing. Although the first cost is more, the saving effected soon overcomes the greater investment.

One of the principle advantages in favor of the roller bearing is the saving in the cost of power. At a western plant which operates a Yates V-7 type resaw equipped with Timken roller bearings, it was figured that where it required 94 H. P. to operate the machine under constant service conditions, using babbitted bearings, it only required 35 H. P. to operate the same machine equipped with roller bearings. A saving of 59 H. P. was effected. In discussing the saving in cost of power with various mill managers who have installed roller bearings, I find that an average of 50 per cent in H. P. is saved.

There is also a distinct advantage in favor of the roller bearing in the cost of lubrication. At the plant of the Eureka Cedar Lumber & Shingle Company, of Hoquiam, Washington, Mr. J. G. Shaw, manager, told me that he has saved 75 per cent in cost of lubrication after installing the roller type bearings.

From the viewpoint of the Underwriters, the principle advantage of a roller bearing lies in the reduction of the fire loss ratio. One of the most common causes of fires in saw mills is the hot box hazard. When a babbitted bearing becomes a hot box the babbitt melts away and the shaft runs on the iron casing. The largest saw mill loss ever suffered in the Pacific northwest was caused by a hot box at a time when the day and night shifts were both on the plant at the same time. With extra men on hand and up-to-date fire fighting facilities, the fire was soon out of control and the loss amounted to over a million dollars. A roller bearing is not free from the danger of becoming a hot box, but the chance of fire is so much less that the roller bearing is winning the favor of insurance concerns. In the first place, a roller bearing is .994 per cent frictionless. This is caused by the advantage of the roller motion as compared with the sliding motion of the babitted bearing. Should a roller bearing not receive the proper amount of lubrication, the bearing will "freeze" on to the shaft and the belt will be thrown off the pulley. The result is that fire is not thrown on the floor.

With the saving in the cost of power and lubrication and the reduction in the hazard of fire from hot boxes, the roller type bearing is the closest approach to the ideal of constructing a bearing that will not wear or overheat.

Experimental Work on Tag Board For Tags

WASHINGTON, D. C., September 21, 1926.—The Paper Laboratory of the Bureau of Chemistry is engaged in some experimental work in connection with tag board for tags. This work is being done in connection with the new Federal specifications for tag board which are being promulgated by the Federal Specifications Board.

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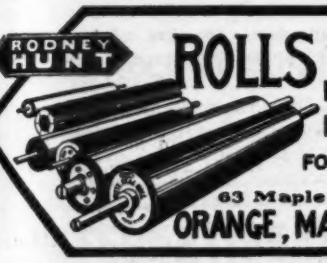

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CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Menominee, Mich.—The Marinette & Menominee Paper Company is perfecting plans for the construction of its proposed new boiler house at its local mill, and will arrange a list of equipment for early installation. The work is reported to cost in excess of $25,000.

Los Angeles, Cal.—The Zellerbach Paper Company, Los Angeles, has plans under way for the construction of the initial unit of a proposed new plant at Southgate, near the city. The structure will be one-story, approximately 120,000 sq. ft. of floor space, of which about one-half will be equipped for the manufacture of paper boxes and containers. The remainder of the mill will be given over to a corrugated paper department. The project is estimated to cost close to $400,000, with equipment. The company has a large tract of land at location noted and will build additional structures at a later date. Headquarters are at Sacramento, Cal. J. D. Zellerbach, president of the National Paper Products Company, San Francisco, is also head of the Zellerbach Paper Company.

Bastrop, La.—The International Paper Company, New York, is pushing construction on an addition to its local kraft paper mill operated in the name of the Bastrop Pulp & Paper Company. The work has been in progress for a number of weeks and it is proposed to have the unit ready for service at an early date. It will be equipped to double approximately the present output, providing a capacity of about 140 tons of sulphate pulp, and 100 tons of finished kraft paper per day. It is expected to give employment to a large increased working force. The parent company has just concluded the purchase of a tract of about 110,000 acres of pine lands in this same district and will utilize for raw material supply.

Camden, N. J.—The Samuel M. Langston Company, Sixth and Jefferson streets, manufacturer of paper box machinery and parts, is completing plans for the construction of a new one-story addition. The work will include improvements in existing plant, and is reported to cost close to $25,000. Lackey & Hettel, 5 Hudson street, Camden, are architects.

Hendersonville, N. C.—The King Paper Box Company, Inc., recently organized with a capital of $10,000, is said to be arranging for the early operation of a new local plant for the manufacture of paper boxes and containers. The new company is headed by George F. King, Jr., Hendersonville.

Longview, Wash.—The Longview Fibre Company, recently organized, will soon take bids for the construction of the initial units of its proposed new plant on site acquired on the Columbia River. The company will also make awards for machinery and equipment at an early date. The entire project is reported to cost more than $2,000,000. D. C. Everest is president.

Cleveland, Ohio—Fire, recently, destroyed a portion of the former plant of the Cleveland-Akron Bag Company, East Thirty-fourth street and Trumball avenue. No announcement has been made regarding rebuilding, but it is unlikely that this will be carried out at the present time.

Dallas, Tex.—The Pollock Paper & Box Company has completed the construction of its proposed new plant on South Lamar street, comprising a one-story unit, 300 x 300 ft., and will develop capacity production at an early date. The plant will be given over to three primary divisions of production, wrapping paper, waxed papers and paper boxes, respectively. Considerable machinery of special design has been installed. The company will give employment to a large increased working force. The new plant represents an investment of close to $300,000, and was erected by W. G. Davis, local contractor. Lawrence S. Pollock is president and general manager of the company; Leslie L. Jacobs is vice-president and manager of the wax wrap division; Henry C. Jacobus is treasurer; and C. F. Kenyon, secretary.

San Bernardino, Cal.—The Cordage Fibre Company is perfecting plans for the construction of its proposed new plant, to be located at Sierra Way and Seventh street. It will be one-story, reported to cost about $20,000. Louis Wolf is president.

Atlanta, Ga.—The Corrugated Paper Company, 73 Stephens street, has completed plans and will proceed with the immediate construction of an addition to its plant to provide for increase in present output. The expansion is reported to cost close to $23,000. A general contract for the building has been let to the Massell Construction Company, Atlanta.

Camden, N. J.—The local plant of the Hitchner Wall Paper Company, Fifth and Mickle streets, was slightly damaegd by fire on Sept. 11; an official estimate of loss has not been announced. The damage has not interferred with production and operations have been maintained continuously.

Cap-de-la-Madeline, Que.—The St. Maurice Valley Corporation is arranging for the installation of additional equipment at its plant, including digesters for pulp mill service and auxiliary apparatus.

Helsingfors, Finland—According to a report from the American Consulate, Helsingfors, Emil Kekich, Trade Commissioner, plans are under way for the construction of two new pulp and paper mills in this district. The first comprises a project of a local company for a new plant in the northern part of Finland, to be equipped for an initial output of 10,000 tons per annum. The other enterprise includes the construction of a wood pulp mill in conjunction with an existing sawmill, to utilize the refuse from this plant as raw material; the project will include a power plant. The proposed mill will be equipped for an initial yearly production of close to 6,000 tons. Information at the office of the Bureau of Foreign and Domestic Commerce, Washington, D. C., under "Reserved Information, Finland, No. 42049."

Midland, Ont.—The International Fibre Board Company is said to be completing plans for the proposed rebuilding of the portion of its plant, recently destroyed by fire, with loss approximating $100,000.

New Companies

Pomona, Cal.—The Valley Box Company, Inc., has been incorporated with a capital of $250,000, to manufacture paper boxes

(Continued on page 70)

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Paper hangings .....17 bls., 22 cs.
News print .....433 rolls, 25 bls.
Printing paper .....100 rolls, 321 bls., 281 cs.
Wrapping paper .....121 bls., 28 pkgs.
Packing paper .....36 cs.
Pergamyn paper .....11 cs.
Parchment paper .....24 cs.
Decalcomania paper .....11 cs.
Writing paper .....74 cs.
Envelopes .....54 cs.
Tissue paper .....36 cs.
Drawing paper .....48 cs.
Filter paper .....24 bls., 52 cs.
Colored paper .....10 cs.
Baryta coated paper .....102 cs.
Metal paper .....14 cs.
Surface coated paper .....313 cs.
Photo paper .....179 cs.
Basic paper .....56 cs.
Straw board .....1541 rolls
Paste boards .....30 bls.
Miscellaneous paper .....44 cs.

CIGARETTE PAPER

Standard Products Corp., Majestic, Southampton, 8 cs.
Standard Products Corp., Rochambeau, Havre, 54 cs.
Standard Products Corp., Liberty, Havre, 40 cs.
American Tobacco Co., Sarcoxie, Bordeaux, 1600 cs.
R. J. Reynolds Tobacco Co., Sarcoxie, St. Nazaire, 700 cs.
De Mænduit Paper Corp., Sarcoxie, St. Nazaire, 47 cs.

WALL PAPER

F. A. Binder, Berlin, Bremen, 1 ble.
D. C. Andrews & Co., Amer. Farmer, London, 6 bls.

PAPER HANGINGS

W. H. S. Lloyd & Co., Caronia, Liverpool, 6 cs., 17 bls.
W. H. S. Lloyd & Co., Majestic, Southampton, 6 cs.
W. H. S. Lloyd & Co., Minnekahda, London, 4 cs.
Whiting & Patterson Co., Minnekahda, London, 6 cs.

NEWS PRINT

Public Press Corp., Thuringia, Hamburg, 58 rolls.
H. Reeve Angel & Co., Inc., Thuringia, Hamburg, 243 rolls.
A. S. Zabriskie, Lutzow, Bremen, 132 rolls.
W. Hartman & Co., Resolute, Hamburg, 25 bls.

PRINTING PAPER

P. C. Zuhlke, Belgenland, Antwerp, 135 cs.
Perkins, Goodwin & Co., Ryndam, Rotterdam, 9 rolls, 1 cs.
E. Dietzgen & Co., Ryndam, Rotterdam, 6 cs.
B. F. Drakenfeld & Co., Baltic, Liverpool, 26 cs.
H. Reeve Angel & Co., Inc., Sweden Maru, Hamburg, 304 bls., 24 cs.
R. F. Downing & Co., Thuringia, Hamburg, 12 cs.
Irving Bank-Columbia Trust Co., Thuringia, Hamburg, 60 cs.
J. P. Heffernan Paper Co., Thuringia, Hamburg, 4 bls.
E. Dietzgen & Co., Seydlitz, Bremen, 8 cs.
Keuffel & Esser, Seydlitz, Bremen, 9 cs., 39 rolls.
J. H. Scott Paper Co., Arabic, Hamburg, 52 rolls.
J. P. Heffernan Paper Co., Resolute, Hamburg, 13 bls.

WRAPPING PAPER

Blauvelt-Wiley Paper Manfg. Co., Transylvania, Glasgow, 28 pkgs.
Maurice O'Meara Co., Sweden Maru, Hamburg, 106 bls.
Bowery-East River Natl. Bank, C. Rosso, Genoa, 15 bls.

PACKING PAPER

Quality Art Novelty Co., Thuringia, Hamburg, 23 cs.
International Forwarding Co., Thuringia, Hamburg, 13 cs.

PERGAMYN PAPER

F. C. Strype, Seydlitz, Bremen, 11 cs.

PARCHMENT PAPER

Maurice O'Meara Co., Resolute, Hamburg, 24 cs.

DECALCOMANIA PAPER

C. W. Sellers, Berlin, Bremen, 6 cs.
Phoenix Shipping Co., Berlin, Bremen, 5 cs.

TRANSFER PAPER

Fuchs & Lang Manfg. Co., Lutzow, Bremen, 1 cs.

WRITING PAPER

Republic Bag & Paper Co., Ryndam, Rotterdam, 9 cs.
Keuffel & Esser, Hektor, Marseilles, 3 cs.
J. P. Morgan & Co., Majestic, Southampton, 1 cs.
Guibout freres, Majestic, Southampton, 8 cs.
A. N. Khonoi & Bros., Majestic, Southampton, 3 cs.
Globe Shipping Co., Thuringia, Hamburg, 50 cs.

ENVELOPES

Globe Shipping Co., Lutzow, Bremen, 54 cs.

TISSUE PAPER

W. J. Byrnes, Baltic, Liverpool, 3 cs.
F. C. Strype, Laconia, Liverpool, 20 cs.
M. Snedeker Corp., Arabic, Hamburg, 13 cs.

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H. Reeve Angel & Co., Inc., Minnekahda, London, 3 cs.
Keuffel & Esser, Seydlitz, Bremen, 45 cs.

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H. Reeve Angel & Co., Inc., Minnekahda, London, 4 cs.
National City Bank, Laconia, Liverpool, 24 bls.
E. Fougera & Co., Roussillon, Bordeaux, 48 cs.

COLORED PAPER

P. H. Petry & Co., Thuringia, Hamburg, 10 cs.

BARYTA COATED PAPER

Globe Shipping Co., Berlin, Bremen, 50 cs.
Globe Shipping Co., Pr. Harding, Bremen, 52 cs.

METAL PAPER

Hensel, Bruckman & Lorbacher, Berlin, Bremen, 14 cs.

SURFACE COATED PAPER

P. C. Zuhlke, Belgenland, Antwerp, 161 cs.
P. Puttman, Belgenland, Antwerp, 59 cs.
Gevaert Co. of America, Belgenland, Antwerp, 87 cs.
Whiting & Patterson Co., Arabic, Hamburg, 6 cs.

PHOTO PAPER

Gevaert Co. of America, Belgenland, Antwerp, 179 cs.

BASIC PAPER

Globe Shipping Co., Belgenland, Antwerp, 56 cs.

STRAW BOARD

Haas Bros., Ryndam, Rotterdam, 84 rolls.
State Bank, Ryndam, Rotterdam, 189 rolls.
A. Vuyk, Ryndam, Rotterdam, 545 rolls.
A. Vuyk, Beemsterdyk, Rotterdam, 723 rolls.

PASTE BOARDS

Arrow Manfg. Co., Pr. Harding, Bremen, 30 bls.

MISCELLANEOUS PAPER

Peerless Leaf Co., Inc., Ryndam, Rotterdam, 14 cs.
American Express Co., C. Tortosa, Genoa, 7 cs.
Fuerst Bros., Sweden Maru, Hamburg, 2 cs.
Keller-Dorian Paper Co., Majestic, Southampton, 14 cs.
A. L. Diament & Co., Rochambeau, Havre, 1 cs.
Coenca Morrison Co., Rochambeau, Havre, 5 cs.

RAGS, BAGGINGS, ETC.

S. Silberman & Co., Northwestern Miller, London, 507 bls. rags.
Equitable Trust Co., Suevier, Antwerp 289 bls. rags.
E. J. Keller Co., Inc., Suevier, Antwerp, 238 bls. rags.
S. Silberman & Co., Suevier, Antwerp, 38 bls. rags.
Irving Bank-Columbia Trust Co., Suevier, Antwerp, 69 bls. rags.
Chase National Bank, Lucia C., Trieste, 205 bls. rags.
I. Abela & Co., Lucia C., Trieste, 86 bls. rags.
Brown Bros. & Co., Lucia C., Venice, 20 bls. rags.
E. J. Keller Co., Inc., Ryndam, Rotterdam, 32 bls. bagging.
E. J. Keller Co., Inc., Ryndam, Amsterdam, 98 bls. rags.
Bulkley, Dunton & Co., Ryndam, Rotterdam, 80 bls. bagging.
Carolina Bagging Co., Ryndam, Rotterdam, 59 bls. bagging.
R. Wolf, Ryndam, Rotterdam, 34 bls. bagging.
The Stone Bros. Co., Inc., Ryndam, Rotterdam, 35 bls. rags.
H. G. Lichtenstein, Ryndam, Rotterdam, 6 bls. rags.
S. Ruebens & Bros., Ryndam, Rotterdam, 32 bls. rags.
The Barrett Co., Cabo Tortosa, Marseilles, 103 bls. rags.
Fulton Bag & Cotton Mills, Inc., Cabo Tortosa, Genoa, 119 bls. bagging.
E. J. Keller Co., Inc., Cabo Tortosa, Genoa, 472 bls. rags.
E. J. Keller Co., Inc., Hektor, Barcelona, 225 bls. bagging.
E. J. Keller Co., Inc., Hektor, Barcelona, 44 bls. rags.
Chase National Bank, Hektor, Barcelona, 98 bls. rags.
Chemical National Bank, Sweden Maru, Hamburg, 14 bls. rags.
S. Silberman & Co., Sweden Maru, Hamburg, 4 bls. rags.
E. J. Keller Co., Inc., Sweden Maru, Hamburg, 28 bls. rags.
Brown Bros. & Co., Laconia, Liverpool, 13 bls. rags.
C. R. Spence & Co., Sarcoxie, Bordeaux, 141 bls. rags.
The Barrett Co., Sarcoxie, Bordeaux, 427 bls. rags.
Sterling Mill Supply Co., Sarcoxie, Bordeaux, 127 bls. rags.
I. C. Harris, Sarcoxie, Bordeaux, 38 bls. rags.
L. H. Abenheimer, Sarcoxie, Bordeaux, 195 bls. rags.
I. Heuerfeld, Sarcoxie, Bordeaux, 23 bls. rags.
S. Silberman & Co., Sarcoxie, Bordeaux, 8 bls. rags.
American Rag Trading Co., Sarcoxie, Bordeaux, 5 bls. rags.
Irving Bank Sarcoxie Bordeaux, 46 bls. rags.
L. Liebowitz & Co., Sarcoxie, Bordeaux, 2 bls. rags.
Castle & Overton, Inc., Sarcoxie, Bordeaux, 33 bls. rags.
P. Berlowitz, Sarcoxie, St. Nazaire, 42 bls. rags.
The Stone Bros. Co., Inc., Sarcoxie, St. Nazaire, 49 bls. rags.
Corn Exchange National Bank, Thuringia, Hamburg, 29 bls. rags.
Whaling Waste Products Co., Thuringia, Hamburg, 18 bls. jute card waste.
A. W. Fenton, Inc., Lutzow, Bremen, 55 bls. rags.
National Bank of Commerce, Lutzow, Bremen, 40 bls. rags.
Richards-Terwilliger, Inc., United States, Copenhagen, 138 bls. rags.
A. W. Fenton, Inc., Innoko, Rotterdam, 62 bls. rags.
E. J. Keller Co., Inc., Arabic, Hamburg, 51 bls. rags.
Ayres W. C. Jones, Oklahoma, Havre, 47 bls. cotton waste.
Royal Manfg. Co., Oklahoma, Havre, 61 bls. cotton waste.
National City Bank, Oklahoma, Havre, 62 bls. rags.
E. J. Keller Co., Inc., Oklahoma, Havre, 102 bls. rags.
Brown Bros. & Co., Oklahoma, Havre, 75 bls. rags.
S. Silberman & Co., Oklahoma, Havre, 14 bls. rags.
Corn Exchange National Bank, Oklahoma, Havre, 90 bls. rags.
A. W. Fenton, Inc., Pr. Harding, Bremen, 23 bls. rags.
M. Snedeker Corp., Resolute, Hamburg, 23 bls. rags.
E. J. Keller Co., Inc., Veendam, Amsterdam, 60 bls. rags.

OLD ROPE

Brown Bros. & Co., Lucia C., Trieste, 3 bls.
W. Steck & Co., Ryndam, Rotterdam, 68 coils.
Grady, Travers & Co., Ryndam, Rotterdam, 125 coils.
S. Birkenstein & Sons, Ryndam, Rotterdam, 52 coils.
Columbia Smelting & Refining Works, Cristobal, Cristobal, 21 bls.
American Exchange-Pacific National Bank, Cabo Tortosa, Marseilles, 65 coils.
W. Schall & Co., Thuringia, Hamburg, 37 coils.
International Purchasing Co., Cabo Torres, La Coruna, 55 bls.
S. Birkenstein & Sons, Beemsterdyk, Rotterdam, 52 coils.
E. J. Keller Co., Inc., Arabic, Hamburg, 16 bls.

(Continued on page 66)

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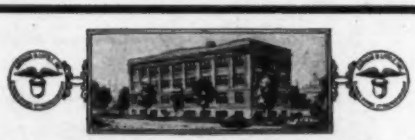

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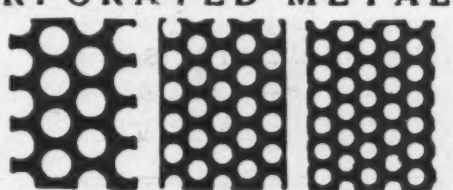

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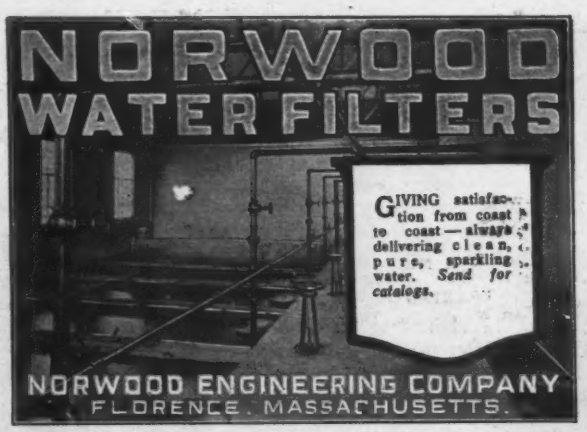
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Imports of Paper and Paper Stock

(*Continued from page 64*)

E. J. Keller Co., Inc., Idaho, Hull, 88 bls.

MANILA ROPE

United Fruit Co., Belgenland, Antwerp, 75 coils.
New York Cordage Co., Belgenland, Antwerp, 79 coils.
Brown Bros. & Co., Belgenland, Antwerp, 176 coils.
Ellermans' Wilson Line, Minnekahda, London, 22 coils.

SUNN ROPE

New York Cordage Co., Belgenland, Antwerp, 20 coils.

WOOD PULP

Buck, Kiaer & Co., Inc., Berlin, Bremen, 400 bls. sulphate pulp.
Banco Com'l Italiana, Sweden Maru, Hamburg, 168 bls. chemical pulp, 25 tons.
J. Anderson & Co., Sweden Maru, Hamburg, 1562 bls. wood pulp, 311 tons.
D. M. Hicks, Inc., Sweden Maru, Hamburg, 336 b's. chemical pulp, 52 tons.
Tidewater Papermills, Bornholm, Liverpool, N. S., 12,395 bls. wood pulp.
Central Union Trust Co., United States, Copenhagen, 750 bls. wood pulp.
Johanson, Wales & Sparre, Inc., United States, Copenhagen, 150 bls. wood pulp.
E. M. Sergeant & Co., United States, Oslo, 150 bls. chemical pulp.
Banco Com'l Italiana, Arabic, Hamburg, 700 bls. wood pulp.
Goldman, Sachs & Co., Arabic, Hamburg, 700 bls. wood pulp.
American Exchange-Pacific National Bank, Tyrifjord, Drammen, 800 bls. sulphite pulp.
Chemical National Bank, Tyrifjord, Oslo, 936 bls. sulphite pulp.
Buck, Kiaer & Co., Inc., Tyrifjord, Oslo, 275 bls. sulphite pulp.
J. Anderson & Co., Pr. Harding, Bremen, 405 bls. wood pulp, 77 tons.

WOOD PULP WADDING

F. Euler & Co., Thuringia, Hamburg, 60 bls.

WOOD FLOUR

State Chemical Corp., Ryndam, Rotterdam, 400 bags.

CASEIN

A. Hurst & Co., Roussillon, Bordeaux, 39 bags.
Guaranty Trust Co., Roussillon, Bordeaux, 334 bags.
National City Bank, Oklahoma, Havre, 599 bags.

PHILADELPHIA IMPORTS

WEEK ENDING SEPTEMBER 18, 1926

Robert Blank, Hektor, Marseilles, 352 bls. rags.
Anglo-South American Trust Co., Hektor, Marseilles, 257 bls. rags.
Central National Bank, Hektor, Marseilles, 198 bls. rags.
National Bank of Commerce, Hektor, Marseilles, 170 bls. rags.
The Stone Bros. Co., Inc., Hektor, Marseilles, 308 bls. rags.
3rd National Bank, Hektor, Marseilles, 26 bls. bagging.
The Stone Bros. Co., Inc., Sarcoxie, Bordeaux, 1348 bls. rags.
Salomon Bros. & Co., Sarcoxie, Bordeaux, 96 bls. rags.
Robert Blank, Sarcoxie, Bordeaux, 533 bls. rags.
Congoleum-Nairn Co., Sarcoxie, Bordeaux, 324 b's. rags.
D. I. Murphy, Sarcoxie, Bordeaux, 133 bls. rags.
D. I. Murphy, Sarcoxie, St. Nazaire, 33 bls. rags.
The Stone Bros. Co., Inc., Sarcoxie, St. Nazaire, 118 bls. rags.
E. J. Keller Co., Inc., Sarcoxie, St. Nazaire, 193 bls. rags.
L. H. Abenheimer, Sarcoxie, St. Nazaire, 54 bls. rags.
Castle & Overton, Inc., Sarcoxie, St. Nazaire, 50 bls. rags.
Reichel, Korfman & Co., Innoko, Rotterdam, 30 cs. filter pulp.
Reichel, Korfman & Co., Innoko, Rotterdam, 40 bls. filter pulp.
Baltimore Trust Co., Oklahoma, Havre, 130 bls. rags.
W. Schall & Co., Oklahoma, Havre, 50 bls. thread waste.
W. Schall & Co., Oklahoma, Havre, 186 bls. rags.
Chemical National Bank, Oklahoma, Havre, 223 bls. rags.
Central National Bank, Oklahoma, Havre, 274 bls. rags.
Southwark National Bank, Oklahoma, Havre, 141 bls. rags.
Anglo-South American Trust Co., Oklahoma, Havre, 263 bls. rags.
Stephano Bros., Oklahoma, Havre, 5 cs. cigarette paper.
E. J. Keller Co., Inc., Clontarf, Oran, 216 bls. rags.
E. J. Keller Co., Inc., W. A. Luckenbach, Shanghai, 494 bls. rags.
E. J. Keller Co., Inc., Seattle Spirit, Bremen, 125 bls. rags.
E. J. Keller Co., Inc., Ulm, Bremen, 30 bls. rags.
Castle & Overton, Inc., Ulm, Germany, 34 bls. rags.
Castle & Overton, Inc., Indep. Hall, Havre, 67 bls. rags.
Castle & Overton, Inc., Sacandaga, Belgium, 1132 bls. rags.
Castle & Overton, Inc., Naples Maru, Germany, 113 bls. rags.

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 18, 1926

Brown Bros. & Co., Daytonian, Liverpool, 11 bls. rags.
Baring Bros. & Co., Daytonian, Liverpool, 129 bls. old rope.
Baring Bros. & Co., Daytonian, Liverpool, 156 bags hide cuttings.
Baring Bros. & Co., Daytonian, Liverpool, 46 b s. bagging.
Baring Bros. & Co., Daytonian, Liverpool, 155 bls. rags.
Banco Com'l Italiana, Sweden Maru, Hamburg, 679 bls. chemical pulp, 104 tons.
D. M. Hicks, Inc., Sweden Maru, Hamburg, 1712 bls. chemical pulp, 238 tons.
National City Bank, Sweden Maru, Hamburg, 375 bls. wood pulp, 75 tons.
G. W. Millar & Co., Sweden Maru, Hamburg, 52 rolls wrapping paper.
Bulkley, Dunton & Co., Westerner, ——, 104 bls. wood pulp.
E. J. Keller Co., Inc., Ulm, Bremen, 64 bls. rags.
E. J. Keller Co., Inc., Blydendyk, Rotterdam, 11 bls. rags.
Castle & Overton, Inc., Ala, Rotterdam, 173 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING SEPTEMBER 18, 1926

Baltimore Trust Co., Oklahoma, Havre, 169 b's. rags.
N. Frank & Sons, Oklahoma, Havre, 4 bls. rags.
Chase National Bank, Oklahoma, Havre, 303 bls. rags.
National Bank of Commerce, Oklahoma, Havre, 65 bls. rags.
Bulkley, Dunton & Co., Sac City, ——, 447 bls. wood pulp.
Bulkley, Dunton & Co., Sachsenwald, ——, 375 bls. wood pulp.
Buck, Kiaer & Co., Inc., Florida, Oslo, 1200 bls. su'phite pulp.
Castle & Overton, Inc., Alda, Germany, 4790 bls. wood pulp.
Castle & Overton, Inc., ——, Germany, 2300 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING SEPTEMBER 18, 1926

Castle & Overton, Inc., Leerdam, Rotterdam, 359 bls. wood pulp.

Overproduction of Paper in Japan

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 21, 1026.—The Tokyo Koshinjo calls attention to the fact that while June and July are usually dull months in the Japanese paper market, business ordinarily recovers by the middle of August. This year, however, there seems little liklihood of any improvement for some time to come owing to the overproduction during the past months on the heels of the widespread business depression. While the demand for foreign paper during recent years has been increasing at the rate of 10 per cent per annum, present stocks on hand are reported as being 14 per cent above normal.

In view of the declining prices on foreign-style papers, the association mills have agreed to curtail the output of such papers as first and medium grade printing papers and Japanese vellum, which have been most seriously affected by the present depression. According to the agreement, the mills will restrict production in these lines by 12 per cent for one year commencing August 10. This agreement, which can be cancelled at any time, will reduce the monthly production by approximately 4,000,000 pounds. In addition to over-expansion in the domestic industry, competition on the part of foreign paper manufactureres and the failure of the mills to secure a government subsidy is ascribed as partly responsible for the depression in the paper industry. Imports of paper into Japan during the first six months of the present year amounted to 68,887,926 pounds in comparison with 52,850,731 pounds during the corresponding six months in 1925.

Western Board Division to Meet

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., September 21, 1926.—The Michigan division of the American Pulp and Paper Mill Superintendents Association and the Western Board division of the Paper Industry will inaugurate the fall season's activities with a union meeting, Friday, September 24, at the Post Tavern, Battle Creek. Robert L. Eminger, Miamisburg, Ohio, national secretary of the superintendents' association, is one of the prime promoters of this gathering.

Arrangements provide for an all day session of the board division, with the superintendents participating at the evening dinner at the Post Tavern, which will be called at 7:00 sharp. Joseph L. Hooper, congressman from the Third Michigan district, will be the after dinner speaker.

Kalamazoo superintendents are going down about 100 per cent for this meeting and local officials are rounding up their coworkers from all other mills in the Kalamazoo valley district, Niles, Grand Rapids, Muskegon, Elkhart, Three Rivers and other points.

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New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, September 22, 1926.

Business continues to improve in the local paper market, and the outlook for the closing months of the year is decidedly promising. During the past week, the demand for the various grades of paper was quite active. Prices are steady to firm, and reports of concessions are infrequent. The vacation period has practically ended, and the sales forces of the leading paper houses are just beginning a strenuous autumn campaign.

The demand for news print is very heavy, and spot supplies are difficult to secure, as stocks on hand are limited. During the month of August, United States mills operated at 94.2 per cent of rated capacity and the Canadian mills at 97.4 per cent, according to statistics compiled by the News Print Service Bureau.

United States mills made 12 per cent more in the first eight months of the year than in the corresponding period last year, and the Canadian mills made 23 per cent more than in the first eight months of 1925. Stocks of news print at United States mills totalled 19,098 tons at the end of August, and at Canadian mills 15,624 tons, making a combined total of 34,722 tons, which was equivalent to a 2.9 days' average production.

Improvement in the paper board market is being well maintained, and production is being accellerated to keep pace with consumption. The position of the fine paper market is sound, with quotations holding up to former levels. Conditions in the coarse paper market are better than for some time, and the demand for wrapping paper is excellent.

Mechanical Pulp

Contract withdrawals of both domestic and imported ground wood are moving into consumption at a good pace. Production is being maintained in good volume, and stocks in hand are about sufficient to take care of current needs. Trading in the spot market has been moderately active and prices are keeping up to schedule.

Chemical Pulp

No radical changes have transpired in the chemical pulp market since last week, and prices are practically unaltered. Shipments against contract are moving in a normal manner, and the undertone of the industry is steady. Inquiries on account of future business are being received in good volume, and the outlook for the remaining months of the year is considered to be favorable.

Old Rope and Bagging

Demand for domestic old rope is persistent, and there is also an improved inquiry for the imported product. Prices are unchanged from previously quoted levels. Bagging is in good request and, judging from the numerous inquiries being received, the market should begin to develop firmness in the near future.

Rags

All grades of domestic rags are in better request. Imported rags are also arousing more interest, although prices are still considered to be too high, in many quarters. Roofing rags are in a particularly strong position, and advanced prices have been asked in some instances, according to reports from reliable sources.

Waste Paper

While collections have improved slightly, the lower grades of waste paper remain very firm. The demand for mixed paper is greater than for some time and dealers are asking higher prices. A better inquiry appears to be developing from the board mills, which are reported to be working at practically full capacity, and a great improvement in the paper stock market is confidently looked for.

Twine

Trading in the twine market during the past week was more lively than for some time. While prices remain unchanged, dealers are very firm in their views, and there seems little prospect of any concessions for some time. In fact, as the market expands, it is quite likely that quotations may be advanced, as the present level is considered to be too low by many competent observers.

ASSOCIATE MILLS HOLD CONFERENCE AT HOLYOKE

(Continued from page 38)

Company, New York City; H. J. Winston, Winston-Sullivan, New York City; J. B. Wells, Sloan Paper Company, Atlanta, Ga.; Wm. Walpole, Globe Paper Company, Boston, Mass.; F. W. Wilson, Blake, Moffitt & Towne, New York City.

R. L. Allison, U. S. Envelope Company, Springfield, Mass.

Bell, Chas. R., Old Colony Envelope Company, Westfield, Mass.

B. A. Chauncy, Morgan Stationery Company, Springfield, Mass.

F. A. Day, Div. Morgan Stationery Company, Springfield, Mass.

Henry Emery, U. S. Envelope Company, Springfield, Mass.

E. V. Johnson, U. S. Envelope Company, Springfield, Mass.

R. L. Lockwood, Old Colony Envelope Company, Westfield, Mass.

C. E. Mack, Old Colony Envelope Company, Westfield, Mass.

F. H. Sellers, U. S. Envelope Company, Springfield, Mass.

E. L. Wood, P. P. Kellogg & Co. Div., Springfield, Mass.; F. L. Wood, U. S. Envelope Company, Springfield, Mass.

Edgemont Paper Products Co. Incorporates

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, September 22, 1926.—The Edgemont Paper Products Company of this city was incorporated the past week by H. C. Murphy, W. W. Waring, J. B. McClary and Philip H. Worman. The company has 1200 shares of common stock of no par value.

Incorporation papers were granted by the secretary of state at Columbus.

The incorporators of the new concern are connected with the Greene & Green Company, cracker manufacturers, the "Edgemont" being one of their widely-known brand of crackers.

It is understood the company will engage in the manufacture of paper sacks and paper boxes. As yet no announcement has been made of the location of the proposed factory.

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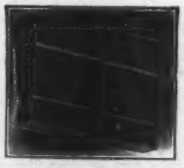

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Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, September 22, 1926.

Conditions in the local chemical market are gradually improving. The various grades of chemicals used in the paper mills are arousing greater interest than for some time and an excellent volume of inquiries are being received on account of future business. Contract withdrawals are moving at an accelerated pace and have been considerably heavier since the beginning of the month. Prices are holding up very well and no concessions are anticipated in the near future.

BLANC FIXE—Steadiness continues to prevail in the blanc fixe market. Demand for both the pulp and the powder is steadily improving and quotations are being well maintained. The pulp is still selling at $56 a ton, in bulk, while the powder is quoted at from 4 to 4¼ cents a pound, in barrels, at works.

BLEACHING POWDER.—Shipments of bleaching powder are reported to be going forward in larger volume. Production is just keeping ahead of consumption and there are no great accumulations of stocks. Prices are practically unchanged from previous levels. Bleaching powder is quoted at from $2 to $2.40 per 100 pounds, in large drums, at works, according to quantity.

CASEIN.—There has been a heavy demand for domestic casein from the mills, and it is said that stocks are rather scarce, while prices are steady to firm. Imported casein is also in good request and the tone of the market is strong. Domestic casein is quoted at from 16 to 19 cents a pound, and imported casein at from 17 to 19 cents a pound, all in bags.

CAUSTIC SODA.—An improved demand was experienced for caustic soda during the past week. Shipments against contract continue to move in a satisfactory manner. Prices remain steady. Caustic soda is quoted at from $3.10 to $3.15 per 100 pounds, in large drums, at works. Spot car lots are offered at from $3.20 to $3.25 per 100 pounds.

CHINA CLAY.—Trading in the china clay market was more active during the past week. Several orders for prompt shipment were recorded while some orders were also booked for future delivery. Imported china clay is still quoted at from $13 to $22 a ton, in bulk, ship side. Domestic clay is offered at from $8 to $9 a ton, at mine, and pulverized at $10 a ton.

CHLORINE.—Increased activity is being experienced in the chlorine market. Contract withdrawals are moving in excellent volume. Prices are steady and unchanged. Chlorine is still quoted at 4 cents a pound, in tanks, or multi-unit cars, at works, on contract. The spot price is from 4½ to 4¾ cents a pound.

ROSIN.—While consumers of rosin do not appear to be purchasing far ahead, a fair amount of orders are being booked for prompt shipment. At the time of writing prices are somewhat firmer. At the naval stores, the grades of rosin mostly used in the paper mills are being offered at from $15.75 to $15.85 per 280 pounds, ex dock, in barrels.

SALT CAKE.—The condition of the salt cake market is very healthy. Inquiries on account of future business are numerous and, with surplus stocks rather limited at present, quotations are very firm. Many experienced observers of the salt cake industry are predicting even better prices in the near future. The prevailing quotation on salt cake ranges from $18 to $20 a ton, in bulk, at works.

SODA ASH.—Demand for soda ash is steadily increasing and contract withdrawals have been going forward in greater volume than for some time. Trading in the spot market is improving and prices are being well maintained, in most instances. Contract quotations, in car lots, at works, per 100 pounds, are as follows; in bulk, $1.25; in bags, $1.38, and in barrels, $1.63.

STARCH.—An active demand was experienced for starch during the past week. Prices remain unchanged from the previously quoted levels. Supplies continue to move into consumption in a satisfactory manner. Special paper makers' starch is still offered at $3.42 per 100 pounds, in bags, and at $3.59 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—No new developments transpired in the sulphate of alumina market, although a moderate amount of new business was transacted. Shipments against contract continue to move at a normal rate. Commercial grades of sulphate of alumina are quoted at from $1.40 to $1.45, in bags, at works, in car lots. The iron free is selling at from $2 to $2.05 per 100 pounds, at works.

SULPHUR.—Conditions in the sulphur market are practically unchanged. Shipments against contract are going forward in good volume and prices are being maintained at former levels. Sulphur is quoted at from $18 to $19 a ton, in bulk, at mine, and from $21 to $23 a ton, ship side.

TALC.—The talc market continues to exhibit a strong undertone. Demand from the paper mills is improving and prices are holding up very well. The quotations on domestic talc range from $16 to $18 a ton, at eastern mines, while French talc is offered at from $18 to $22 a ton, ship side.

CONSTRUCTION NEWS

(*Continued from page 62*)

and containers and kindred products. The incorporators are W. F. and C. E. McConnell, Riverside; and C. V. McConnell, Pomona.

Cleveland, Ohio—The Rukin Paper Box Company has been incorporated with capital of $25,000, to manufacture and deal in paper boxes and containers. The incorporators are I. W., D., and H. Rukin, Cleveland.

Philadelphia, Pa.—The Prince George Pulp & Paper Company is being organized under State laws, to manufacture and deal in paper products. Application for State charter will be made on Oct. 4. The company is represented by Taylor, Robey, Hoar & Nicholson, St. Girard Building, Philadelphia.

New York, N. Y.—The Lehigh Paper Stock Company, has been incorporated with capital of $10,000, to deal in papers and paper products. The incorporators are A. F. and R. Sirico. The company is represented by L. Lee, 229 East 112th street, New York.

Hartland, Conn.—The Setag Paper Mills, Inc., recently incorporated, has filed notice of company organization, and proposes to operate a local mill. Bernard W. Gates, Pleasantville, N. Y., is president; Henry F. Koster, Pleasantville, vice-president; Robert Gilmore, Williamsport, Pa., second vice-president; and Chester A. Bentley, Winsted, Conn., secretary and treasurer. The Gates Paper Twine Company, Pleasantville, is interested in the new organization.

E. T. Harman Dead

APPLETON, WIS., September 18, 1926.—E. T. Harman, former manager of the Biron Pulp and Paper Company, of Biron, Wis., died September 12 at his home at Milwaukee, Wis. Death came as the result of a paralytic stroke. Mr. Harman was cashier of the First National Bank, Wisconsin Rapids, Wis., and left this position to take charge of the Biron mill. He was the manager of the company before the mill was acquired by the Consolidated Water Power and Paper Company. Mr. Harman also was instrumental in building the paper mill at Merrill, Wis., and was a stockholder for many years in that concern. He left Wisconsin Rapids for Milwaukee about twenty years ago.

To Have Charge of Timken Industrial Dept.

CANTON, Ohio, September 17, 1926.—Effective immediately, C. H. Johnson has been appointed Engineer, Service Department, of The Timken Roller Bearing Company. He will have direct charge of the installation of Timken Bearings in automotive and industrial applications. Mr. Johnson's experience in this field, with the Timken Company qualifies him particularly well to direct this class of work.